COVER PAGE FOR TEST REPORT

Product Category:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
Product Category CCN:	QQGQ, QQGQ7
Test Procedure:	Listing
Product:	Direct Plug In Switching Adapter
Model/Type Reference:	GT-81041-2007.5-4.5-W2 GT-81041-2007.5-X.X-W2 where X.X is from 3.0 to 7.5 (by step of 0.1) GT-81041-2009.4-X.X-W2 where X.X is from 7.6 to 9.4 (by step of 0.1) GT-81041-2014-X.X-W2 where X.X is from 9.5 to 14.0 (by step of 0.1) GT-81041-2014L-X.X-W2 where X.X is from 9.5 to 14.0 (by step of 0.1) GT-81041-2024-X.X-W2 where X.X is from 18.0 to 24.0 (by step of 0.1)
Rating(s):	Input for all models: 100-240 Vac, 50/60 Hz, 0.7 A GT-81041-2007.5-4.5-W2: output rated: 3.0 VDC, 3A. GT-81041-2007.5-X.X-W2: output rated: 3.0 VDC to 7.5 VDC (max 3A or 15W) GT-81041-2009.4-X.X-W2: output rated: 7.6 VDC to 9.4 VDC (max 1.8 A or 15W) GT-81041-2014-X.X-W2: output rated: 9.5 VDC to 14 VDC (max 1.7 A or 20.4W) GT-81041-2014L-X.X-W2: output rated: 9.5 VDC to 14 VDC (max 1.7 A or 20.4W) GT-81041-2024-X.X-W2: output rated: 18 VDC to 24 VDC (max 1.7 A or 20.4W)
Standards:	UL 60950-1, 1st Edition, 2006-07-07 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Applicant Name and Address:	GLOBTEK INC 186 VETERANS DR NORTHVALE NJ 07647

This Report includes the following parts, in addition to this cover page:

1. Specific Inspection Criteria
2. Specific Technical Criteria
3. Clause Verdicts
4. Critical Components
5. Test Results
6. National Differences
7. Enclosures

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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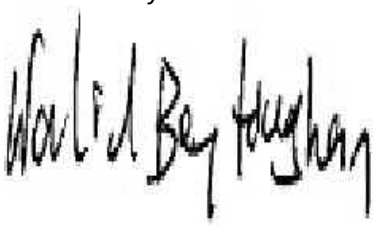
Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Test Report By:

Paul Pham
Project Engineer
Underwriters Laboratories Inc.

Reviewed By:



Walid Beytoughan
Staff Engineer
Underwriters Laboratories Inc.

SPECIFIC INSPECTION CRITERIA

BA1.0	**Special Instructions to UL Representative**
BA1.1	N/A

BB1.0	**Supporting Documentation**
BB1.1	The following documents located at the beginning of this Procedure supplement the requirements of this Test Report: A. Authorization - The Authorization page may include additional Factory Identification Code markings. B. Generic Inspection Instructions - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report. ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report. iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

BC1.0	**Markings and instructions**
BC1.1	The following markings and instructions are provided as indicated.
BC1.2	All clause references are from UL 60950-1, 1st Edition, 2006-07-07 (Information Technology Equipment - Safety - Part 1: General Requirements).

Standard Clause	Clause Title	Marking or Instruction Details
1.7.1	Power rating - Ratings	Ratings (voltage, frequency/dc, current)
	Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
	Power rating - Model	Model Number
	Power rating - Class II symbol	Symbol for Class II construction ⧈(60417-2-IEC-5172)
1.7.2	Disconnect device - Pluggable equipment	Statement indicating that the socket-outlet shall be installed near the equipment and shall be easily accessible. (Instruction)

1.7.6	Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.
	Fuses - Non-operator access/soldered-in fuses	Unambiguous reference to service documentation for instructions for replacement of fuses replaceable only by service personnel
Other	Limited Power Source Marking	Unit may be optionally marked "LPS" or "Limited Power Source"

BD1.0	**Production-Line Testing Requirements**						
BD1.1	Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.						
					Test Potential		
	Model	Component	Removable Parts	Test probe location	V rms	V dc	Test Time, s
	N/A	---	---	---	---	---	---
BD1.2	Earthing Continuity Test Exemptions - This test is not required for the following models:			GT-81041-2007.5-4.5-W2 GT-81041-2007.5-X.X-W2 where X.X is from 3.0 to 7.5 (by step of 0.1) GT-81041-2009.4-X.X-W2 where X.X is from 7.6 to 9.4 (by step of 0.1) GT-81041-2014-X.X-W2 where X.X is from 9.5 to 14.0 (by step of 0.1) GT-81041-2014L-X.X-W2 where X.X is from 9.5 to 14.0 (by step of 0.1) GT-81041-2024-X.X-W2 where X.X is from 18.0 to 24.0 (by step of 0.1)			
BD1.3	Electric Strength Test Exemptions - This test is not required for the following models:			N/A			
BD1.4	Electric Strength Test Component Exemptions - The following solid-state components may disconnected from the remainder of the circuitry during the performance of this test:			N/A			

BE1.0	**Sample and Test Specifics for Follow-Up Tests at UL**					
BE1.1	Model	Component	Material	Test	Sample(s)	Test Specifics
	N/A	---	---	---	---	---

SPECIFIC TECHNICAL CRITERIA

UL 60950-1, First Edition Information technology equipment - Safety- Part 1: General Requirements	
Report Reference No	E170507-A21-UL-1
Compiled by	Paul Pham
Reviewed by	Walid Beytoughan
Date of issue	2007-07-12
Standards	UL 60950-1, 1st Edition, 2006-07-07 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Test procedure	Listing
Non-standard test method	N/A
Test item description	Direct Plug In Switching Adapter
Trademark	None
Model and/or type reference	GT-81041-2007.5-4.5-W2 GT-81041-2007.5-X.X-W2 where X.X is from 3.0 to 7.5 (by step of 0.1) GT-81041-2009.4-X.X-W2 where X.X is from 7.6 to 9.4 (by step of 0.1) GT-81041-2014-X.X-W2 where X.X is from 9.5 to 14.0 (by step of 0.1) GT-81041-2014L-X.X-W2 where X.X is from 9.5 to 14.0 (by step of 0.1) GT-81041-2024-X.X-W2 where X.X is from 18.0 to 24.0 (by step of 0.1)
Rating(s)	Input for all models: 100-240 Vac, 50/60 Hz, 0.7 A GT-81041-2007.5-4.5-W2: output rated: 3.0 VDC, 3A. GT-81041-2007.5-X.X-W2: output rated: 3.0 VDC to 7.5 VDC (max 3A or 15W) GT-81041-2009.4-X.X-W2: output rated: 7.6 VDC to 9.4 VDC (max 1.8 A or 15W) GT-81041-2014-X.X-W2: output rated: 9.5 VDC to 14 VDC (max 1.7 A or 20.4W) GT-81041-2014L-X.X-W2: output rated: 9.5 VDC to 14 VDC (max 1.7 A or 20.4W) GT-81041-2024-X.X-W2: output rated: 18 VDC to 24 VDC (max 1.7 A or 20.4W)

Particulars: test item vs. test requirements	
Equipment mobility ..... :	direct plug-in
Operating condition ..... :	continuous
Mains supply tolerance (%) ..... :	+10%, -10%
Tested for IT power systems ..... :	No
IT testing, phase-phase voltage (V) ..... :	N/A
Class of equipment ..... :	Class II (double insulated)
Mass of equipment (kg) ..... :	< 18
Protection against ingress of water ..... :	IP X0

Possible test case verdicts:	
- test case does not apply to the test object ..... :	N / A
- test object does meet the requirement ..... :	Pass
- test object does not meet the requirement ..... :	Fail (acceptable only if a corresponding, less stringent national requirement is "Pass")

General remarks:

- "(see Enclosure #)" refers to additional information appended to the Test Report
- "(see appended table)" refers to a table appended to the Test Report
- Throughout the Test Report a point is used as the decimal separator

GENERAL PRODUCT INFORMATION:	
CA1.0	**Report Summary**
CA1.1	N/A
CB1.0	**Product Description**
CB1.1	This product is a direct plug-in type power unit intended to be used for information technology equipment in TN power systems and are for indoor use only. It consists of an isolated transformer with electronic ciruitry housed in a thermoplastic enclosure. It is also provided with parallel type blades with NEMA 1-15P configuration and a length of cord terminated with a molded-on non-standard polarized output connector for output connection.
CC1.0	**Model Differences**
CC1.1	- All models are identical except for model designation, transformer secondary winding and output rating. - Model GT-81041-2014L-X.X-W2 is identical to model GT-81041-2014-X.X-W2 except model GT-81041-2014L-X.X-W2 has an LED in the secondary SELV circuit.
CD1.0	**Additional Information**
CD1.1	Models DSA-20P-05 US cd, where c can be 030 to 075, d can be 000 to 150 cover models GT-81041-2007.5-4.5-W2 and GT-81041-2007.5-X.X-W2 where X.X is from 3.0 to 7.5 (by step of 0.1) Models DSA-20P-10 US cd, where c can be 080 to 094, d can be 000 to 150 cover models GT-81041-2009.4-X.X-W2 where X.X is from 7.6 to 9.4 (by step of 0.1) Models DSA-20P-10 US cd, where c can be 095 to 140, d can be 000 to 204 cover models GT-81041-2014-X.X-W2 where X.X is from 9.5 to 14.0(by step of 0.1) Models DSA-20PL-10 US cd, where c can be 095 to 140, d can be 000 to 204 cover models GT-81041-2014L-X.X-W2 where X.X is from 9.5 to 14.0 (by step of 0.1) Models DSA-20P-20 US cd, where c can be 180 to 240, d can be 000 to 204 cover models GT-81041-2024-X.X-W2 where X.X is from 18.0 to 24.0 (by step of 0.1)
CE1.0	**Technical Considerations**
CE1.2	The product was submitted and tested for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40°C
CE1.3	The means of connection to the mains supply is: Pluggable A
CE1.4	The product is intended for use on the following power systems: TN
CE1.5	The equipment disconnect device is considered to be: Direct Plug-in blades
CE1.8	The following accessible locations (with circuit/schematic designation) are within a limited current

	circuit: Vout (+ to -)
CE1.9	The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): Vout (+ to -)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		Pass
1.5	Components		Pass
1.5.1	General		Pass
	Comply with IEC 60950 or relevant component standard	(See Critical Component List)	Pass
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this Standard. Components not certified are used in accordance with their ratings and they comply with applicable parts of this Standard and the relevant component Standard. Components, for which no relevant IEC Standard exist, have been tested under the condition occurring in the equipment, using applicable parts of this Standard.	Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Transformers comply with relevant requirements including Annex C.	Pass
1.5.5	Interconnecting cables	VW-1 or FT-1, max. 3.05 m length.	Pass
1.5.6	Capacitors in primary circuits ..... :	Primary-to-secondary capacitors are subclass Y1.	Pass
1.5.7	Double insulation or reinforced insulation bridged by components		Pass
1.5.7.1	General		Pass
1.5.7.2	Bridging capacitors		Pass
1.5.7.3	Bridging resistors		N/A
1.5.7.4	Accessible parts		Pass
1.5.8	Components in equipment for IT power systems	Not for use on IT power systems.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6	**Power interface**		Pass
1.6.1	AC power distribution systems	AC power distribution systems are classified as TN.	Pass
1.6.2	Input current	The steady state input current of the equipment did not exceed the RATED CURRENT by more than 10% under NORMAL LOAD. See Test Record for details.	Pass
1.6.3	Voltage limit of hand-held equipment	Not hand-held equipment .	N/A
1.6.4	Neutral conductor	Neutral conductor is insulated from secondary circuitry as if it were a line conductor.	Pass

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

1.7	**Marking and instructions**		Pass
1.7.1	Power rating	Rating marking readily visible to operator.	Pass
	Rated voltage(s) or voltage range(s) (V) ..... :	Refer to Page 1 of Test Report	Pass
	Symbol for nature of supply, for d.c. only ..... :	AC source	N/A
	Rated frequency or rated frequency range (Hz) .... :	Refer to Page 1 of Test Report	Pass
	Rated current (mA or A)..... :	Refer to Page 1 of Test Report	Pass
	Manufacturer's name or trademark or identification mark ..... :	Refer to Page 1 of Test Report	Pass
	Type/model or type reference..... :	Refer to Page 1 of Test Report	Pass
	Symbol for Class II equipment only ..... :	60417-1-IEC-5172 symbol marked.	Pass
	Other symbols..... :	Additional marking may be provided when submitted for national approval.	Pass
	Certification marks ..... :	UL, c-UL.	Pass
1.7.2	Safety instructions	Operating/safety instructions made available to the user.	Pass
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment..... :		N/A
1.7.5	Power outlets on the equipment ..... :	No standard power outlets are provided.	N/A
1.7.6	Fuse identification..... :	F1: T1.0 A, 250 Vac marked on PWB near primary input fuse.	Pass
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals ..... :	Class II equipment	N/A
1.7.7.2	Terminal for a.c. mains supply conductors	Not Permanently connected equipment	N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		N/A
1.7.8.1	Identification, location and marking ..... :	No indicator, control affecting safety provided.	N/A
1.7.8.2	Colours..... :		N/A
1.7.8.3	Symbols according to IEC 60417 ..... :	There are no switches in the equipment.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.8.4	Markings using figures ..... :	Figures are not used for indicating different positions of controls.	N/A
1.7.9	Isolation of multiple power sources ..... :	There is only one connection to hazardous voltages.	N/A
1.7.10	IT power distribution systems	Not intended to use IT Power System	N/A
1.7.11	Thermostats and other regulating devices	No thermostats or similar regulating devices.	N/A
1.7.12	Language ..... :	Reviewed only English markings/instructions. May be provided in other languages upon request from the manufacturer.	-
1.7.13	Durability	All markings provided on UL Recognized Component labels suitable for surface they are applied upon and meet the durability test.	Pass
1.7.14	Removable parts	Marking is not placed on removable parts.	Pass
1.7.15	Replaceable batteries	No batteries provided.	N/A
	Language ..... :		-
1.7.16	Operator access with a tool ..... :	No operator access areas require the use of a tool.	N/A
1.7.17	Equipment for restricted access locations ..... :		N/A

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

2	**PROTECTION FROM HAZARDS**		Pass
2.1	Protection from electric shock and energy hazards		Pass
2.1.1	Protection in operator access areas		Pass
2.1.1.1	Access to energized parts	See below	Pass
	Test by inspection..... :	Operator can not contact with any parts with hazardous voltage.	Pass
	Test with test finger..... :	The test finger was unable to contact bare hazardous parts.	Pass
	Test with test pin..... :	The test pin cannot touch hazardous voltage through and openings or seams of the whole enclosure.	Pass
	Test with test probe ..... :	No TNV present.	N/A
2.1.1.2	Battery compartments..... :		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V); minimum distance (mm) through insulation ..... :	See 2.10.3 and 2.10.4 Table of clearance and creepage distance measurements.	-
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards..... :	The output of the power supply is not an energy hazard.	Pass
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment		N/A
	Time-constant (s); measured voltage (V) ..... :		-
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations	The unit is not intended to be used in restricted locations.	N/A

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

2.2	**SELV circuits**		Pass
2.2.1	General requirements		Pass
2.2.2	Voltages under normal conditions (V) ..... :	All accessible voltages are less than 42.4 Vp or 60 V dc and are classified as SELV.	Pass
2.2.3	Voltages under fault conditions (V)..... :	Under fault conditions voltages never exceed 71 Vp and 120 V dc and do not exceed 42.4 Vp or 60 V dc for more than 0.2 sec.	Pass
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)		Pass
2.2.3.2	Separation by earthed screen (method 2)		N/A
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N/A
2.2.4	Connection of SELV circuits to other circuits..... :	SELV circuits connected to Limited Current Circuit complying with 1.5.7 and 2.4.3. The SELV circuit complies with 2.2.2 and 2.2.3.	Pass

2.3	**TNV circuits**		N/A
2.3.1	Limits		N/A
	Type of TNV circuits ..... :		-
2.3.2	Separation from other circuits and from accessible parts		N/A
	Insulation employed..... :		-
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

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

2.4	**Limited current circuits**		Pass
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz) ..... :	60	-
	Measured current (mA) ..... :	0.07	-
	Measured voltage (V) ..... :	352	-
	Measured capacitance (mF) ..... :	1000 pF	-
2.4.3	Connection of limited current circuits to other circuits		Pass

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

2.5	**Limited power sources**		Pass
	Inherently limited output		N/A
	Impedance limited output		N/A
	Overcurrent protective device limited output		N/A
	Regulating network limited output under normal operating and single fault condition		Pass
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N/A
	Output voltage (V), output current (A), apparent power (VA): ..... :	Refer to General Product Information for correlative model references: Model DSA-20P-05 US 03009: Uoc: 4.84 V Isc: 6.4 A VA: 13.7 VA Model DSA-20P-05 US 05015: Uoc: 6.34 V Isc: 7.3 A VA: 20.4 VA Model DSA-20P-05 US 07515: Uoc: 8.72 V Isc: 7.5 A VA: 22.9 VA Model DSA-20P-10 US 08415: Uoc: 9.58 V Isc: 4.4 A VA: 27.7 VA Model DSA-20P-10 US 12020: Uoc: 15.76 V Isc: 4.6 A VA: 35.2 VA Model DSA-20P-20 US 18020: Uoc: 19.8 V Isc: 2.8 A VA: 32.5 VA Model DSA-20P-20 US 24020: Uoc: 29.31 V	-

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
		Isc: 3.8 A VA: 57.6 VA	
	Current rating of overcurrent protective device (A) :		-

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

2.6	**Provisions for earthing and bonding**		N/A
2.6.1	Protective earthing		N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm2), AWG .....:		-
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm2), AWG .....:		-
2.6.3.4	Resistance (Ohm) of earthing conductors and their terminations, test current (A) .....:		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 and 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

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

2.7	**Overcurrent and earth fault protection in primary circuits**		Pass
2.7.1	Basic requirements		Pass
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not covered in 5.3		N/A
2.7.3	Short-circuit backup protection	Building installation is considered as providing short-circuit backup protection.	Pass
2.7.4	Number and location of protective devices..... :	One protective device in the "LIVE" phase	Pass
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel ..... :		N/A

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

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

2.9	**Electrical insulation**		Pass
2.9.1	Properties of insulating materials	Natural rubber, hygroscopic materials and materials containing asbestos are not used as insulating materials. Electric strength test was conducted after the humidity treatment. See below.	Pass
2.9.2	Humidity conditioning	Humidity treatment performed to 120 hrs in condition : 95%, 40°C	Pass
	Humidity (%) ..... :	95	-
	Temperature (°C) ..... :	40	-
2.9.3	Grade of insulation	Reinforced Insulation between Primary and SELV, Basic Insulation between Primary and Earth, Functional Insulation between Primary and Primary and between SELV and SELV.	Pass

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

2.10	**Clearances, creepage distances and distances through insulation**		Pass
2.10.1	General	Pollution degree 2 applicable.	Pass
2.10.2	Determination of working voltage	See Test Record for details.	Pass
2.10.3	Clearances	See appended table.	Pass
2.10.3.1	General	Measured distances are adequate.	Pass
2.10.3.2	Clearances in primary circuit	See appended table.	Pass
2.10.3.3	Clearances in secondary circuits	Functional insulation, see 5.3.4.	Pass
2.10.3.4	Measurement of transient voltage levels		N/A
2.10.4	Creepage distances	See appended table.	Pass
	CTI tests..... :	Material group IIIb; 100 <= CTI < 175.	-
2.10.5	Solid insulation	Solid or laminated insulating materials having adequate thickness are provided.	Pass
2.10.5.1	Minimum distance through insulation	See appended Table 2.10.5	Pass
2.10.5.2	Thin sheet material	Two layers used, each of which complies with the required electric strength test. Thickness 0.025 mm each.	Pass
	Number of layers (pcs) ..... :	Two layers of polyester tape provided as outer wrap on primary and secondary winding of transformer. Two layers of polyester tape provided between primary and secondary wires.	-
	Electric strength test ..... :	Electric strength conducted on one layer of tape at 3000 Vac.	-
2.10.5.3	Printed boards	PWB is not used as reinforced or supplementary insulation.	N/A
	Distance through insulation		N/A
	Electric strength test for thin sheet insulating material ..... :		-
	Number of layers (pcs) ..... :		N/A
2.10.5.4	Wound components		Pass
	Number of layers (pcs) ..... :	Three wrapped layers.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	Two wires in contact inside wound component; angle between 45° and 90° ..... :	Physical separation in the form of insulating sleeving provided to relieve mechanical stress at the crossover point.	Pass
2.10.6	Coated printed boards	No coated printed wiring boards.	N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A
2.10.6.3	Thermal cycling		N/A
2.10.6.4	Thermal ageing (°C) ..... :		N/A
2.10.6.5	Electric strength test ..... :		-
2.10.6.6	Abrasion resistance test		N/A
	Electric strength test ..... :		-
2.10.7	Enclosed and sealed parts ..... :		N/A
	Temperature T1=T2 = Tma - Tamb +10K (°C)..... :		N/A
2.10.8	Spacings filled by insulating compound..... :	UL approved optical isolators used.	Pass
	Electric strength test ..... :	(see appended table 5.2)	-
2.10.9	Component external terminations		N/A
2.10.10	Insulation with varying dimensions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3	**WIRING, CONNECTIONS AND SUPPLY**		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection	Internal wiring is adequately sized for the current it is intended to carry and protected from overcurrent.	Pass
3.1.2	Protection against mechanical damage	The wires are routed away from sharp edges and parts which could damage insulation.	Pass
3.1.3	Securing of internal wiring		Pass
3.1.4	Insulation of conductors		Pass
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	Conductors suitably terminated, creepage and clearances maintained, second securing for soldered terminations provided.	Pass
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.2	**Connection to an a.c. mains supply or a d.c. mains supply**		Pass
3.2.1	Means of connection	The unit is provided with a means for direct plug-in.	Pass
3.2.1.1	Connection to an a.c. mains supply		Pass
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	Single mains supply	N/A
3.2.3	Permanently connected equipment	The equipment is not permanently connected.	N/A
	Number of conductors, diameter (mm) of cable and conduits..... :		-
3.2.4	Appliance inlets	Direct plug-in equipment.	N/A
3.2.5	Power supply cords	Direct plug-in equipment.	N/A
3.2.5.1	AC power supply cords		N/A
	Type ..... :		-
	Rated current (A), cross-sectional area (mm²), AWG ..... :		-
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief	Direct plug-in equipment.	N/A
	Mass of equipment (kg), pull (N) ..... :		-
	Longitudinal displacement (mm)..... :		-
3.2.7	Protection against mechanical damage	Direct plug-in equipment.	N/A
3.2.8	Cord guards	Direct plug-in equipment.	N/A
	D (mm); test mass (g) ..... :		-
	Radius of curvature of cord (mm) ..... :		-
3.2.9	Supply wiring space	Direct plug-in equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict

3.4	**Disconnection from the mains supply**		Pass
3.4.1	General requirement	Direct Plug-In equipment	Pass
3.4.2	Disconnect devices	A mains plug that is part of DIRECT PLUG-IN EQUIPMENT	Pass
3.4.3	Permanently connected equipment	Not permanently connected equipment.	N/A
3.4.4	Parts which remain energized	No parts remain energized when the disconnect device is removed.	N/A
3.4.5	Switches in flexible cords	No isolating switch in the cord set.	N/A
3.4.6	Single-phase equipment and d.c. equipment	Disconnect device disconnects both poles simultaneously.	Pass
3.4.7	Three-phase equipment	The equipment is single-phased.	N/A
3.4.8	Switches as disconnect devices	No such switch is provided.	N/A
3.4.9	Plugs as disconnect devices	Direct Plug-In equipment. There are no power supply cord used.	N/A
3.4.10	Interconnected equipment	No interconnection of hazardous voltages.	N/A
3.4.11	Multiple power sources	One power source only.	N/A

3.5	**Interconnection of equipment**		Pass
3.5.1	General requirements	Output of power supply is a limited power source.	Pass
3.5.2	Types of interconnection circuits ..... :	Interconnection circuits are LIMITED CURRENT CIRCUITS.	Pass
3.5.3	ELV circuits as interconnection circuits		N/A

4	**PHYSICAL REQUIREMENTS**		Pass
4.1	Stability		N/A
	Angle of 10°	Direct Plug-In equipment.	N/A
	Test: force (N) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.2	**Mechanical strength**		Pass
4.2.1	General	See below	Pass
4.2.2	Steady force test, 10 N		Pass
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	See Test Record for details.	Pass
4.2.5	Impact test	Direct plug-in equipment.	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test	See Test Record for details.	Pass
4.2.7	Stress relief test	See Test Record for details.	Pass
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified .....:		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

4.3	**Design and construction**		Pass
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N) ..... :		N/A
4.3.3	Adjustable controls	No setting for power supply voltage.	N/A
4.3.4	Securing of parts		N/A
4.3.5	Connection of plugs and sockets	The equipment does not have any interchangeable plugs/sockets.	N/A
4.3.6	Direct plug-in equipment	Power supply suitable for the application and compliant with national requirements is to be provided by the manufacturer or distributor.	Pass
	Dimensions (mm) of mains plug for direct plug-in . :	The blade configuration is in accordance with the national applicable standards. NEMA 1-15P Configuration.	Pass
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N) ..... :	The additional torque applied to the socket-outlet to maintain the engagement face in the vertical plane did not exceed 0.25 Nm.	Pass
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		N/A
4.3.9	Oil and grease	The insulation of the internal wiring is not exposed to oil, grease, etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce or employ powders, liquids, or gases.	N/A
4.3.11	Containers for liquids or gases	The equipment does not contain liquid.	N/A
4.3.12	Flammable liquids ..... :	The equipment does not use any flammable liquids.	N/A
	Quantity of liquid (l) ..... :		N/A
	Flash point (°C) ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13	Radiation; type of radiation	Ionising radiation or laser or in which similar hazards are not presents.	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
4.3.13.5	Laser (including LEDs)		N/A
	Laser class..... :		-
4.3.13.6	Other types ..... :		N/A

4.4	**Protection against hazardous moving parts**		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.5	**Thermal requirements**		Pass
4.5.1	Maximum temperatures	The equipment and its component parts did not attain excessive temperatures during normal operation.	Pass
	Normal load condition per Annex L ..... :	Operated in the most unfavorable way of operation given in the operating instructions until steady conditions established. Permitted rises based on manufacturer's specified Tmra of 40°C. See Test Record for details.	Pass
4.5.2	Resistance to abnormal heat	See Test Record for details.	Pass
4.6	**Openings in enclosures**		N/A
4.6.1	Top and side openings		N/A
	Dimensions (mm)..... :		-
4.6.2	Bottoms of fire enclosures	No openings.	N/A
	Construction of the bottom..... :		-
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C)/time (weeks) ..... :		-

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Clause	Requirement + Test	Result - Remark	Verdict

4.7	**Resistance to fire**		Pass
4.7.1	Reducing the risk of ignition and spread of flame	Method 1: Selection and application of components and materials which minimize the possibility of ignition and spread of flame.	Pass
	Method 1, selection and application of components wiring and materials		Pass
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure		Pass
4.7.2.1	Parts requiring a fire enclosure	Components in primary and secondary circuits are provided with fire enclosure.	Pass
4.7.2.2	Parts not requiring a fire enclosure	Interconnecting cable is marked "VW-1" or "FT-1"	Pass
4.7.3	Materials		Pass
4.7.3.1	General	See below.	Pass
4.7.3.2	Materials for fire enclosures	Equipment is moveable with mass less than 18 kg. Fire enclosure material is V-1 minimum.	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures	Interconnecting cable is marked "VW-1" or "FT-1".	Pass
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.	Pass
4.7.3.5	Materials for air filter assemblies	No air filter assemblies.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General	Touch current levels did not exceed limits of Table 5A. See enclosed test record.	Pass
5.1.2	Equipment under test (EUT)	Single mains connection.	Pass
5.1.3	Test circuit	Test circuit of Figure 5A used.	Pass
5.1.4	Application of measuring instrument	Measuring circuit of Annex D used.	Pass
5.1.5	Test procedure	Touch current was measured from primary to enclosure and primary to output.	Pass
5.1.6	Test measurements	RMS value measured.	Pass
	Test voltage (V) ..... :	264 V ac, 60 Hz	-
	Measured touch current (mA) ..... :	Max 0.08 mA	-
	Max. allowed touch current (mA) ..... :	0.25 mA	-
	Measured protective conductor current (mA) ..... :		-
	Max. allowed protective conductor current (mA) ... :		-
5.1.7	Equipment with touch current exceeding 3.5 mA .. :	Touch current is < 0.25mA.	N/A
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks	No TNV circuit.	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system	No TNV circuit.	N/A
	Test voltage (V) ..... :		-
	Measured touch current (mA) ..... :		-
	Max. allowed touch current (mA) ..... :		-
5.1.8.2	Summation of touch currents from telecommunication networks ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.2	**Electric strength**		Pass
5.2.1	General	Based on the electric strength test the use of the insulating materials within the equipment is satisfactory.	Pass
5.2.2	Test procedure	No insulation breakdown detected during the test. See Test Record for details.	Pass
5.3	**Abnormal operating and fault conditions**		Pass
5.3.1	Protection against overload and abnormal operation	Unit is protected by regulating circuitry and primary input fuse. See Test Record for details.	Pass
5.3.2	Motors		N/A
5.3.3	Transformers	Transformers are protected by primary fuse and by regulating network.	Pass
5.3.4	Functional insulation ..... :	Functional insulation complies with the requirements (a) or (c).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults	See Test Record for details.	Pass
5.3.7	Unattended equipment	The equipment is not intended for unattended use.	N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions	No fire, emission of molten metal or deformation was noted during the tests. Electric Strength tests performed after abnormal and fault tests.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

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

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

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

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Clause	Requirement + Test	Result - Remark	Verdict

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

A	**Annex A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		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		N/A
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)..... :		-

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Clause	Requirement + Test	Result - Remark	Verdict

A.2	**Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)**		N/A
A.2.1	Samples, material ..... :		-
	Wall thickness (mm) ..... :		-
A.2.2	Conditioning of samples		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame		N/A
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 60695-2-2, cl. 4, 8		N/A
	Sample 1 burning time (s)..... :		-
	Sample 2 burning time (s)..... :		-
	Sample 3 burning time (s)..... :		-

A.3	**Hot flaming oil test (see 4.6.2)**		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict

C	**Annex C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		Pass
	Position ..... :	T1	-
	Manufacturer ..... :	Globtek Inc.	-
	Type ..... :	90E252005-00H, 90E252010-00H, 90E252020-00H	-
	Rated values ..... :	T1 employs Class B (130C), Type DASH 2 B-5	-
	Method of protection ..... :	Regulating Network	-
C.1	Overload test	See Test Record for details.	Pass
C.2	Insulation	Insulation complies with Clauses 2.10 and 5.2.2.	Pass
	Protection from displacement of windings ..... :	Margin tape provided on each end of each winding.	Pass

D	**Annex D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS**		Pass
D.1	Measuring instrument		Pass
D.2	Alternative measuring instrument		N/A

E	**Annex E, TEMPERATURE RISE OF A WINDING**	N/A

F	**Annex F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)**	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

G	**Annex G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	DC mains supply		N/A
G.3	Determination of telecommunication network transient voltage (V) : :		N/A
G.4	Determination of required withstand voltage (V) ... :		N/A
G.5	Measurement of transient levels (V) ..... :		N/A
G.6	Determination of minimum clearances ..... :		N/A

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

J	**Annex J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		N/A
	Metal used ..... :		-

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

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Clause	Requirement + Test	Result - Remark	Verdict

L	**Annex L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)**		Pass
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		Pass

M	**Annex M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) ..... :		-
M.3.1.2	Voltage (V) ..... :		-
M.3.1.3	Cadence; time (s), voltage (V) ..... :		-
M.3.1.4	Single fault current (mA) ..... :		-
M.3.2	Tripping device and monitoring voltage ..... :		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) ..... :		N/A

N	**Annex N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
P	**Annex P, NORMATIVE REFERENCES**		Pass
Q	**Annex Q, BIBLIOGRAPHY**		N/A
R	**Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	**Annex S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	**Annex T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
	..... :		-
U	**Annex U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N/A
	..... :		-

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	**TABLE: list of critical components**					Pass
Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Supplement ID
Enclosure	GE Plastics Global Products For Worldwide Procurement	SE1X	V-1, 105°C, minimum 1.5 mm thick. Measured overall 73 by 47 by 34.5 mm. Two halves construction, secured together by ultrasonic welding.	QMFZ2	UL	3-01
Input Blades Holder	GE Plastics Global Products For Worldwide Procurement	SE1X	V-1, 105°C, minimum 1.5 mm thick.	QMFZ2	UL	3-01
Input Blades	--	--	Solid copper, non-grounding, non-polarized, NEMA 1-15P configuration. Spaced minimum 8 mm from perimeter edge of Enclosure. Input blades connected to PWB by internal wiring.	--	--	3-01
Output Cord Strain Relief	Various	Various	PVC bushing integrally molded on output cord. Provided when Output Cord provided.	QMFZ2	UL	4-06
Output Cord	Various	Various	Maximum 3.05 m, marked VW-1 or FT-1, terminates with a polarized connector outside enclosure.	AVLV2	UL	3-01
Internal Wiring (Primary)	Various	Various	Rated minimum 80°C, 300V, minimum No. 26 AWG. PVC, TFE, PTFE, FEP or neoprene or surface marked VW-1	AVLV, AVLV2	UL	3-02
Insulating Tubing/Sleeving	Various	Various	FEP, PTFE, PVC, TFE, neoprene, or marked VW-1;	UZFT2, YDPU2, YDRY2, YDTU2	UL	3-02

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			105°C, 300 V			
Printed Wiring Board	Various	Various	Rated minimum V-1, 130ºC.	ZPMV2	UL	5-02
Fuse (F1)	Various	Various	T.1.0 A, 250 Vac.	JDYX	UL	3-02
Fuse (F1) (Alternate)	Lanson Electronics	SMT	T.1.0 A, 250 Vac.	JDYX2	UL	3-02
Fuse (F1) (Alternate)	Conquer Electronics Co., Ltd.	MST	T.1.0 A, 250 Vac.	JDYX2	UL	3-02
Fuse (F1) (Alternate)	Wickmann-Werke GMBH	392	T.1.0 A, 250 Vac.	JDYX2	UL	3-02
Fuse (F1) (Alternate)	Walter Electronic Co., Ltd.	2010	T.1.0 A, 250 Vac.	JDYX2	UL	3-02
Line Choke (LF1) (Optional)	Various	30R012017-01x (x = F or H)	Open type construction. Rated 105°C.	--	--	4-01
Core (LF1)	Various	Various	Ferrite, toroidal, measured overall 12 mm OD by 6 mm ID by 4 mm wide.	--	--	4-01
Coil (LF1)	Various	Various	Rated minimum 105°C.	OBMW2	UL	4-01
Triple Insulated Winding Wire (LF1)	Furukawa Electric Co., Ltd.	TEX-E	Rated minimum 105°C.	OBJT2	UL	4-01
Bridge Diodes (D1, D2, D3, D4)	Various	Various	Rated minimum 1 A, minimum 1000 V.	--	--	3-02
Electrolytic Capacitors (C1)	Various	Various	Integral pressure relief, rated maximum 4.7-10 µF, minimum 400 V, minimum 105°C.	--	--	3-02
Line Filter (LF2) (Optional)	Various	30C050098-01H	Open type construction. Rated 105°C.	--	--	4-02
Core (LF2)	Various	Various	Ferrite, toroidal, measured overall 14.2 by 10.2 by 2.9 mm.	--	--	4-02
Coil (LF2)	Various	Various	Rated minimum 105°C.	OBMW2	UL	4-02
Bobbin (LF2)	Chang Chun Plastics Co., Ltd.	T373J, T353	Rated V-1, 150°C, minimum 1.0 mm thick.	QMFZ2	UL	4-02
Mosfet Transistor (Q1)	Various	Various	Rated 1 A, 600 V	--	--	3-02
Optical Isolators (IC2)	Cosmo Electronics Corp.	K1010, KP1010	Minimum 3000 V ac isolation. Double protection.	FPQU2	UL	3-02
Optical Isolators (IC2)	Everlight Electronics	EL817	Minimum 3000 V ac isolation.	FPQU2	UL	3-02

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(Alternate)	Co., Ltd.		Double protection.			
Optical Isolators (IC2) (Alternate)	Sharp Corp., Electronic Components Group	PC817	Minimum 3000 V ac isolation. Double protection.	FPQU2	UL	3-02
Optical Isolators (IC2) (Alternate)	Bright LED Electronics Corp.	BPC-817B, BPC-817MB	Minimum 3000 V ac isolation. Double protection.	FPQU2	UL	3-02
Optical Isolators (IC2) (Alternate)	Lite-On Technology Corp.	LTV-817	Minimum 3000 V ac isolation. Double protection.	FPQU2	UL	3-02
Bridge Capacitor (CY1) (Optional) (For Models DSA-20P-20 US cd only)	Various	Various	Rated maximum 1000 pF, minimum 250 Vac. Class Y1.	FOKY2 or FOWX2	UL	3-02
Transformer (T1)	Globtek Inc.	90E252005-00H, 90E252010-00H, 90E252020-00H	Class B (130°C) Insulation System, Type DASH 2 B-5.	OBJY2	UL	4-03
Core (T1)	Various	Various	Ferrite, measured overall 26.1 by 25.8 by 4 mm.	--	--	4-03
Coil (T1)	Various	Various	Rated minimum 130°C.	OBMW2	UL	4-03
Bobbin (T1)	Chang Chun Plastics Co., Ltd.	T373J, T353	Rated V-1, 150°C, minimum 1.0 mm thick.	QMFZ2	UL	4-03
Bobbin (T1) (Alternate)	Sumitomo Bakelite Co., Ltd.	PM-9820	Rated V-0, 150°C, minimum 0.75 mm thick.	QMFZ2	UL	4-03
Insulating Tape (T1)	Symbio Inc.	35660	Polyester tape, 0.05 mm thick, rated 130°C. Provided on transformer core and between windings.	OANZ2	UL	4-03
Insulating Tape (T1) (Alternate)	Nitto Denko Corp.	350A, 354, 354E	Polyester tape, 0.05 mm thick, rated 130°C. Provided on transformer core and between windings.	OANZ2	UL	4-03
Insulating Tape (T1) (Alternate)	Nichiban Co., Ltd.	620-UL, 620UL-T, 553H-UL, 573H-UL	Polyester tape, 0.05 mm thick, rated 130°C. Provided on transformer core and between windings.	OANZ2	UL	4-03
Margin Tape (T1)	3M Co.	44	Polyester tape, 0.05 mm thick,	OANZ2	UL	4-03

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			rated 130°C. Measured minimum 3 mm wide on both sides of Bobbin.			
Varnish (T1)	PD George Co./Ripley Resin	468-2	Rated minimum 130°C.	OBOR2	UL	4-03
Tubing (T1)	Zeus Industrial Products Inc.	TFE-SW-600	Minimum 130°C. Provided on all exit leads.	YDPU2	UL	4-03
Heat Sink (HS1)	Various	Various	Aluminum, minimum 0.8 mm thick. Provided with insulation tape near primary components. See Enclosure for detailed dimensions.	--	--	4-04
Heat Sink (HS2)	Various	Various	Aluminum, minimum 1.5 mm thick. See Enclosure for detailed dimensions.	--	--	4-05
Insulation Sheet	Various	Various	Rated V-2, 130°C, minimum 0.4 mm thick. Measured overall 24.5 by 21 by 18 mm. Provided around T1 near secondary components.	QMFZ2	UL	3-02
LPS Resistor (R9) (For 6-12W models)	--	--	Rated 1.0 Ohm, 1 W	--	--	3-02
LPS Resistor (R9) (For 12.1-16W models)	--	--	Rated 0.82 Ohm, 1 W	--	--	3-02
LPS Resistor (R9) (For 16.1-20.4W models)	--	--	Rated 0.75 Ohm, 1 W	--	--	3-02
Adhesive Glue	Various	Various	Minimum V-2, 105°C.	QMFZ2	UL	3-02
Label	Various	Various	60 ºC.	PGDQ2	UL	3-01
IC (IC1)	Various	OB2263	--	--	--	3-02
IC (IC1) Alternate	Various	LD7550	--	--	--	3-02
LED for model GT-81041-2014L-X.X-W2 where X.X is from 9.5 to 14.0 (by step of 0.1)	Various	Various	Located in the secondary SELV circuit	--	--	3-02

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1.6.2	**TABLE: electrical data (in normal conditions)**					Pass
fuse #	I rated (A)	U (V)	P (W)	I (mA)	I fuse (mA)	condition/status
Model DSA-20P-05 US 050150	--	--	--	--	--	--
F1	--	90	20.5	376	376	Max. Normal Load / 50Hz
F1	0.7	100	20.4	345	345	Max. Normal Load / 50Hz
F1	0.7	240	20.6	212	212	Max. Normal Load / 50Hz
F1	--	264	20.7	200	200	Max. Normal Load / 50Hz
F1	--	90	20.5	382	382	Max. Normal Load / 60Hz
F1	0.7	100	20.5	354	354	Max. Normal Load / 60Hz
F1	0.7	240	20.7	218	218	Max. Normal Load / 60Hz
F1	--	264	20.7	207	207	Max. Normal Load / 60Hz
Model DSA-20P-05 US 075150	--	--	--	--	--	--
F1	--	90	18.6	345	345	Max. Normal Load / 50Hz
F1	0.7	100	18.7	321	321	Max. Normal Load / 50Hz
F1	0.7	240	19.6	206	206	Max. Normal Load / 50Hz
F1	--	264	19.6	196	196	Max. Normal Load / 50Hz
F1	--	90	18.6	353	353	Max. Normal Load / 60Hz
F1	0.7	100	18.7	329	329	Max. Normal Load / 60Hz
F1	0.7	240	19.6	212	212	Max. Normal Load / 60Hz
F1	--	264	19.6	201	201	Max. Normal Load / 60Hz
Model DSA-20P-10 US 083150	--	--	--	--	--	--
F1	--	90	18.3	338	338	Max. Normal Load / 50Hz
F1	0.7	100	18.2	312	312	Max. Normal Load / 50Hz
F1	0.7	240	18.7	198	198	Max. Normal Load / 50Hz
F1	--	264	18.9	189	189	Max. Normal Load / 50Hz
F1	--	90	18.3	344	344	Max. Normal Load / 60Hz
F1	0.7	100	18.3	320	320	Max. Normal Load / 60Hz
F1	0.7	240	18.8	205	205	Max. Normal Load / 60Hz
F1	--	264	19.0	196	196	Max. Normal Load / 60Hz
Model DSA-20P-10 US 120204	--	--	--	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

F1	--	90	23.5	431	431	Max. Normal Load / 50Hz
F1	0.7	100	23.4	397	397	Max. Normal Load / 50Hz
F1	0.7	240	23.8	258	258	Max. Normal Load / 50Hz
F1	--	264	24.2	246	246	Max. Normal Load / 50Hz
F1	--	90	23.5	439	439	Max. Normal Load / 60Hz
F1	0.7	100	23.5	407	407	Max. Normal Load / 60Hz
F1	0.7	240	23.9	265	265	Max. Normal Load / 60Hz
F1	--	264	24.3	252	252	Max. Normal Load / 60Hz
Model DSA-20P-20 US 180204	--	--	--	--	--	--
F1	--	90	23.8	438	438	Max. Normal Load / 50Hz
F1	0.7	100	23.6	400	400	Max. Normal Load / 50Hz
F1	0.7	240	24.0	259	259	Max. Normal Load / 50Hz
F1	--	264	24.1	245	245	Max. Normal Load / 50Hz
F1	--	90	23.8	444	444	Max. Normal Load / 60Hz
F1	0.7	100	23.6	410	410	Max. Normal Load / 60Hz
F1	0.7	240	24.1	266	266	Max. Normal Load / 60Hz
F1	--	264	24.2	250	250	Max. Normal Load / 60Hz
Model DSA-20P-20 US 240204	--	--	--	--	--	--
F1	--	90	23.5	424	424	Max. Normal Load / 50Hz
F1	0.7	100	23.3	387	387	Max. Normal Load / 50Hz
F1	0.7	240	23.9	245	245	Max. Normal Load / 50Hz
F1	--	264	23.9	228	228	Max. Normal Load / 50Hz
F1	--	90	23.5	429	429	Max. Normal Load / 60Hz
F1	0.7	100	23.3	395	395	Max. Normal Load / 60Hz
F1	0.7	240	23.9	250	250	Max. Normal Load / 60Hz
F1	--	264	24.0	235	235	Max. Normal Load / 60Hz
supplementary information:						
Refer to General Product Information for correlative model references. Maximum Normal Load: Model DSA-20P-05 US 05015: 5 Vdc, 3 A Model DSA-20P-05 US 07515: 7.5 Vdc, 2 A Model DSA-20P-10 US 08315: 8.3 Vdc, 1.8 A Model DSA-20P-10 US 12020: 12 Vdc, 1.7 A Model DSA-20P-20 US 18020: 18 Vdc, 1.14 A Model DSA-20P-20 US 24020: 24 Vdc, 0.85 A						

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.3 and 2.10.4	**TABLE: clearance and creepage distance measurements**					Pass
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
Primary, Line to Neutral, Before Fuse, PWB Trace	<420	<250	2.0	2.9	2.5	2.9
Primary to Secondary, 10N, C3 (Pri) to HS1 (Sec)	<420	<250	4.0	5.4	5.0	5.4
Primary to Secondary, Under CY1, PWB Trace	<420	<250	4.0	7.2	5.0	7.2
Primary to Secondary, Under IC2, PWB Trace	<420	<250	4.0	7.5	5.0	7.5
Primary to Secondary, Under T1, PWB Trace	448	257	4.2	6.1	5.2	6.1
Primary to Secondary, CY1	<420	<250	4.0	9.5	5.0	9.5
Primary to Secondary, IC2	<420	<250	4.0	6.3	5.0	6.3
Primary to Secondary, T1	448	257	4.2	5.2	5.2	5.2
Primary/Secondary to Core, T1	448	257	2.1	3.0	2.6	3.0
supplementary information:						
1) Transformer (T1) provided with insulation tape wrapped around core. 2) Transformer (T1) provided with minimum 3.0 mm wide margin tape on both sides of bobbin. 3) Transformer (T1) body provided with insulation sheet near secondary components. 4) Transformer (T1) all exit leads sleeved with tubing/sleeving. 5) Heat Sink (HS1) provided with 3 layers of insulation tape near primary components. 6) Tubed components: R9 leads, L4. 7) Glued components: Input leads, LF1, ZD1, D6, C2, LF2, C11, C3, insulation sheet near T1, output leads, LF3, C8, L4, D8.						

2.10.5	**TABLE: distance through insulation measurements**			Pass
distance through insulation di at/of:	Up (V)	test voltage (V)	required di (mm)	di (mm)
Insulation Sheet	420	3000	0.4	0.4
Optical Isolator	420	3000	0.4	0.4
supplementary information:				
--				

4.5	**TABLE: temperature rise measurements**						Pass
	test voltage (V)	--	--	--	--	--	—
	t1 (°C).....	--	--	--	--	--	—
	t2 (°C).....	--	--	--	--	--	—

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maximum temperature T of part/at:	T (°C)					allowed Tmax (°C)
Model DSA-20P-05 US 050150	90 Vac (Vertical)	90 Vac (Horizontal)	264 Vac (Horizontal)	--	--	--
LF1 Coil	73.7	68.1	68.3	--	--	105
C3 Body	81.9	79.5	78.0	--	--	105
LF2 Coil	88.9	85.1	79.5	--	--	105
PWB Under D4	87.0	81.0	73.8	--	--	105
HS2 Body Near Q1	87.2	85.9	87.3	--	--	105
T1 Top Side Coil	82.2	80.2	82.6	--	--	110
T1 Core	80.7	79.0	81.7	--	--	110
T1 Bottom Side Coil	85.7	84.4	86.3	--	--	110
IC2 Body	72.8	70.8	72.7	--	--	100
LF3 Coil	79.3	78.5	79.2	--	--	105
Input Leads	65.8	59.5	59.1	--	--	80
Inside Enclosure	71.9	68.4	70.2	--	--	105
Surface of Enclosure	53.9	50.3	49.9	--	--	95
Ambient air	40.0	40.0	40.0	--	--	--
Model DSA-20P-05 US 075150	90 Vac (Vertical)	90 Vac (Horizontal)	264 Vac (Horizontal)	--	--	--
LF1 Coil	67.1	68.2	73.0	--	--	105
C3 Body	76.9	76.9	79.9	--	--	105
PWB Under D4	74.9	76.1	74.4	--	--	105
HS2 Body Near Q1	74.4	73.7	91.2	--	--	105
T1 Top Side Coil	78.4	77.4	84.1	--	--	110
T1 Bottom Side Coil	72.9	72.3	78.6	--	--	110
T1 Core	78.1	76.5	82.1	--	--	110
IC2 Body	67.7	67.3	72.7	--	--	100
LF3 Coil	69.1	66.8	69.9	--	--	105
Input Leads	62.7	61.5	67.2	--	--	80
Inside Enclosure	69.0	68.0	74.4	--	--	105
Surface of Enclosure	52.0	52.0	55.0	--	--	95
Ambient air	40.0	40.0	40.0	--	--	--
Model DSA-20P-10 US 083150	90 Vac (Vertical)	90 Vac (Horizontal)	264 Vac (Horizontal)	--	--	--
LF1 Coil	72.6	71.7	75.8	--	--	105
C3 Body	72.0	71.9	79.1	--	--	105
LF2 Coil	79.1	79.4	80.3	--	--	105
PWB Under D4	80.5	80.5	79.1	--	--	105
HS2 Body Near Q1	76.2	76.7	88.3	--	--	105
T1 Top Side Coil	80.1	79.7	84.0	--	--	110

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T1 Core	75.8	75.2	80.7	--	--	110
T1 Bottom Side Coil	72.8	72.2	77.4	--	--	110
IC2 Body	65.9	64.7	68.9	--	--	100
LF3 Coil	68.3	67.0	70.1	--	--	105
Input Leads	62.9	62.3	64.5	--	--	80
Inside Enclosure	65.5	64.8	68.7	--	--	105
Surface of Enclosure	55.2	54.0	55.7	--	--	95
Ambient air	40.0	40.0	40.0	--	--	--
Model DSA-20P-10 US 120204	90 Vac (Vertical)	90 Vac (Horizontal)	264 Vac (Horizontal)	--	--	--
LF1 Coil	71.0	69.2	72.4	--	--	105
C3 Body	80.1	78.9	77.3	--	--	105
LF2 Coil	84.1	82.6	77.5	--	--	105
PWB Under D4	84.8	82.5	72.9	--	--	105
HS2 Body Near Q1	83.5	81.0	83.8	--	--	105
T1 Top Side Coil	80.1	78.1	82.0	--	--	110
T1 Core	76.1	73.8	77.6	--	--	110
T1 Bottom Side Coil	81.5	78.9	82.2	--	--	110
IC2 Body	68.8	66.3	69.3	--	--	100
LF3 Coil	66.5	63.2	65.2	--	--	105
Input Leads	63.4	60.8	60.9	--	--	80
Inside Enclosure	70.6	68.5	71.7	--	--	105
Surface of Enclosure	54.8	53.1	53.7	--	--	95
Ambient air	40.0	40.0	40.0	--	--	--
Model DSA-20P-20 US 180204	90 Vac (Vertical)	90 Vac (Horizontal)	264 Vac (Horizontal)	--	--	--
LF1 Coil	69.7	70.7	69.7	--	--	105
C3 Body	76.7	77.0	76.2	--	--	105
LF2 Coil	82.2	83.2	76.5	--	--	105
PWB Under D4	79.8	81.8	70.6	--	--	105
HS2 Body Near Q1	77.5	77.8	83.9	--	--	105
T1 Core	78.5	78.1	83.0	--	--	110
T1 Bottom Side Coil	78.4	78.4	83.8	--	--	110
T1 Top Side Coil	78.2	77.8	82.7	--	--	110
IC2 Body	69.0	69.0	73.5	--	--	100
CY1 Body	80.3	81.2	83.9	--	--	105
LF3 Coil	63.6	64.0	67.0	--	--	105
Input Leads	63.8	63.8	65.8	--	--	80
Inside Enclosure	69.0	69.0	73.5	--	--	105
Surface of Enclosure	54.2	55.3	54.3	--	--	95
Ambient air	40.0	40.0	40.0	--	--	--
Model DSA-20P-20 US 240204	90 Vac	90 Vac (Horizon	264 Vac (Horizon	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

	(Vertical)	tal)	tal)			
LF1 Coil	75.1	72.2	75.9	--	--	105
C3 Body	78.5	76.7	80.9	--	--	105
LF2 Coil	88.8	87.1	85.1	--	--	105
PWB Under D4	89.5	86.8	83.4	--	--	105
HS2 Body Near Q1	82.7	80.4	93.1	--	--	105
T1 Core	77.5	76.7	87.5	--	--	110
T1 Bottom Side Coil	78.7	78.6	90.1	--	--	110
T1 Top Side Coil	80.0	79.1	89.0	--	--	110
IC2 Body	72.4	72.8	83.1	--	--	100
CY1 Body	80.8	79.9	87.4	--	--	105
LF3 Coil	69.3	69.7	78.9	--	--	105
Input Leads	72.6	71.3	80.1	--	--	80
Inside Enclosure	69.3	67.6	77.1	--	--	105
Surface of Enclosure	56.5	54.4	59.3	--	--	95
Ambient air	40.0	40.0	40.0	--	--	--
temperature T of winding:		R_1 (Ω)	R_2 (Ω)	T (°C)	allowed Tmax (°C)	insulation class
--		--	--	--	--	--
supplementary information:						
Refer to General Product Information for correlative model references. Maximum Normal Load: Model DSA-20P-05 US 050150: 5 Vdc, 3 A Model DSA-20P-05 US 075150: 7.5 Vdc, 2 A Model DSA-20P-10 US 083150: 8.3 Vdc, 1.8 A Model DSA-20P-10 US 120204: 12 Vdc, 1.7 A Model DSA-20P-20 US 180204: 18 Vdc, 1.14 A Model DSA-20P-20 US 240204: 24 Vdc, 0.85 A Temperatures adjusted to reflect ambient of 40°C.						

4.5.2	**TABLE: ball pressure test of thermoplastics**		Pass
	allowed impression diameter (mm) ..... :	<2.0 mm	—
part		test temperature (°C)	impression diameter (mm)
Enclosure, GE, Type SE1X		125	1.1 mm
supplementary information:			
--			

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4.7	**TABLE: resistance to fire**			Pass
part	manufacturer of material	type of material	thickness(mm)	flammability class
--	--	--	--	--
supplementary information:				
See Critical Components List.				

5.2	**TABLE: electric strength tests, impulse tests and voltage surge tests**	Pass
test voltage applied between:	test voltage (V) a.c./d.c.	breakdown Yes / No
One layer of insulation (T1)	3000 Vac	No
Primary winding to SELV winding	3000 Vac	No
Primary winding to core	1700 Vac	No
SELV winding to core	1700 Vac	No
Primary to SELV	4242 Vdc	No
Primary to Enclosure with Foil	4242 Vdc	No
supplementary information:		
--		

5.3	**TABLE: fault condition tests**						Pass
	ambient temperature (°C) ..... :				See Results		—
	model/type of power supply..... :				See Page 1 of Test Report		—
	manufacturer of power supply ..... :				--		—
	rated markings of power supply ..... :				--		—
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result	
Model DSA-20P-20 US cd	--	--	--	--	--	--	
IC2 (Pin 1)	Open	240	10 mins	F1	0.02	Unit shutdown, NT, NB, NC.	
IC2 (Pri)	Short	240	10 mins	F1	0.02	Unit shutdown, NT, NB, NC.	
IC2 (Sec)	Short	240	9 hrs	F1	0.28	Output increased to 28 V, CT, NT, NB, NC. T1 = 106°C, ambient = 30°C.	
T1 (7-8)	Short	240	10 mins	F1	0.02~0.07	Unit cycle protection, NT, NB, NC.	
T1 (3-4)	Short	240	10 mins	F1	0.02~0.08	Unit cycle protection, NT, NB, NC.	

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Clause	Requirement + Test	Result - Remark	Verdict

Q1 (G-S)	Short	240	10 mins	F1	0.01	Unit shutdown, NT, NB, NC.
Q1 (D-S)	Short	240	1 sec	F1	0	IP (F1), CD (Q1), NT, NB, NC.
Q1(G-D)	Short	240	1 sec	F1	0	IP (F1), CD (Q1), NT, NB, NC.
C3	Short	240	1 sec	F1	0	IP (F1), NT, NB, NC.
D1	Short	240	1 sec	F1	0	IP (F1), NT, NB, NC.
IC1	Short	240	10 mins	F1	0.02	Unit shutdown, NT, NB, NC.
T1 (After D7, 18Vdc)	Overload	240	3 hrs	F1	0.31	CT at 1.8 A, increased to 1.9 A Unit cycle protection, NT, NB, NC. T1 = 79°C, ambient = 27°C.
T1 (After D7, 24Vdc)	Overload	240	7 hrs	F1	0.29	CT at 2.2 A, increased to 2.3 A Unit cycle protection, NT, NB, NC. T1 = 89°C, ambient = 29°C.
Vout (+ to -, 18Vdc)	Short	240	10 mins	F1	0.05~0.09	Unit cycle protection, NT, NB, NC.
Vout (+ to -, 18Vdc)	Overload	240	3 hrs	F1	0.30	CT at 1.6 A, increased to 1.7 A Unit cycle protection, NT, NB, NC. T1 = 83°C, ambient = 27°C.
Vout (+ to -, 24Vdc)	Short	240	10 mins	F1	0.02~0.06	Unit cycle protection, NT, NB, NC.
Vout (+ to -, 24Vdc)	Overload	240	4 hrs	F1	0.31	CT at 1.6 A, increased to 1.7 A Unit cycle protection, NT, NB, NC. T1 = 87°C, ambient = 29°C.
Model DSA-20P-10 US cd	--	--	--	--	--	--
T1 (7-8)	Short	240	10 mins	F1	0.02~0.07	Unit cycle protection, NT, NB, NC.
T1 (3-4)	Short	240	10 mins	F1	0.03~0.09	Unit cycle protection, NT, NB, NC.
T1 (After D7, 8.3Vdc)	Overload	240	7 hrs	F1	0.23	CT at 2.4 A, increased to 2.6 A Unit cycle protection, NT, NB, NC. T1 = 74°C, ambient = 27°C.
T1 (After D7, 12Vdc)	Overload	240	2 hrs	F1	0.29	CT at 2.4 A, increased to 2.5 A Unit cycle protection, NT, NB, NC. T1 = 76°C, ambient = 30°C.
Vout (+ to -, 8.3Vdc)	Short	240	10 mins	F1	0.02~0.06	Unit cycle protection, NT, NB, NC.
Vout (+ to -, 8.3Vdc)	Overload	240	3 hrs	F1	0.23	CT at 2.0 A, increased to 2.1 A Unit cycle protection, NT, NB, NC. T1 = 75°C,

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Clause	Requirement + Test	Result - Remark	Verdict

						ambient = 28°C.
Vout (+ to -, 12Vdc)	Short	240	10 mins	F1	0.03~0.07	Unit cycle protection, NT, NB, NC.
Vout (+ to -, 12Vdc)	Overload	240	3 hrs	F1	0.28	CT at 2.3 A, increased to 2.4 A Unit cycle protection, NT, NB, NC. T1 = 78°C, ambient = 30°C.
Model DSA-20P-05 US cd	--	--	--	--	--	--
T1 (7-8)	Short	240	10 mins	F1	0.25	Unit shutdown, NT, NB, NC.
T1 (3-4)	Short	240	10 mins	F1	0.02~0.09	Unit cycle protection, NT, NB, NC.
T1 (After D7, 5Vdc)	Overload	240	3 hrs	F1	0.24	CT at 3.45 A, increased to 3.5 A Unit cycle protection, NT, NB, NC. T1 = 79°C, ambient = 30°C.
T1 (After D7, 7.5Vdc)	Overload	240	3 hrs	F1	0.25	CT at 2.9 A, increased to 3.0 A Unit cycle protection, NT, NB, NC. T1 = 83°C, ambient = 27°C.
Vout (+ to -, 5Vdc)	Short	240	10 mins	F1	0.02~0.06	Unit cycle protection, NT, NB, NC.
Vout (+ to -, 5Vdc)	Overload	240	2 hrs	F1	0.24	CT at 3.2 A, increased to 3.3 A Unit cycle protection, NT, NB, NC. T1 = 79°C, ambient = 30°C.
Vout (+ to -, 7.5Vdc)	Short	240	10 mins	F1	0.02~0.06	Unit cycle protection, NT, NB, NC.
Vout (+ to -, 7.5Vdc)	Overload	240	3 hrs	F1	0.25	CT at 2.6 A, increased to 2.8 A Unit cycle protection, NT, NB, NC. T1 = 83°C, ambient = 27°C.
supplementary information:						
Comments Key: IP - Internal protection operated (list component) CT - Constant temperatures were obtained TW - Transformer winding opened CD - Components damaged (list damaged components) NB - No indication of dielectric breakdown YB - Dielectric breakdown (indicate time and location) NC - Cheesecloth remained intact YC - Cheesecloth charred or flamed NT - Tissue paper remained intact YT - Tissue paper charred or flamed All fuses tested, same results. Refer to General Product Information for correlative model references.						