## **COVER PAGE FOR TEST REPORT**

Product Category:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
Product Category CCN:	QQGQ2, QQGQ8
Test Procedure:	Component Recognition
Product:	Switching Power Supply, Built-In AC/DC
Model/Type Reference:	2065 Family -
Model/Type Reference:	ZU05 Family -         Standard 65W Output Models:         GT-2065-333.3-F         GT-2065-403.3-F         GT-2065-403.3-F         GT-2065-6509-F         GT-2065-6512-F         GT-2065-6512-F         GT-2065-6513-F         GT-2065-6514-F         GT-2065-6518-F         GT-2065-6518-F         GT-2065-6536-F         GT-2065-6548-F         Standard 80W Output Models:         GT-2065-553.3-FA         GT-2065-5505-FA         GT-2065-8009-FA         GT-2065-8009-FA         GT-2065-8012-FA         GT-2065-8012-FA         GT-2065-8012-FA         GT-2065-8012-FA         GT-2065-8012-FA         GT-2065-8012-FA         GT-2065-8012-FA         GT-2065-8012-FA         GT-2065-8012-FA         GT-2065-8018-FA         GT-2065-8018-FA         GT-2065-8036-FA         GT-2065-8036-FA         GT-2065-8048-FA         GT-2065-8048-FA
Rating(s):	The models listed above are standard models, upon which custom versions are based. All units are based on the same nomenclature; see the Model Differences section for details. Input - Voltage: 100-240 Vac Frequency: 50-60 Hz Current, for all 65W units + 3.3V and 5.0 V 80W units: 1.5A Current, 7.5V through 48V 80W units: 2.5A Output - 65 Watt Output Models: Standard Model Vdc A GT-2035-333.3-F 3.3 10.00 GT-2065-403.3-F 3.3 12.12 GT-2065-4005-F 5.0 8.00 GT-2065-657.5-F 7.5 8.67

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		GT-2065-6509-F GT-2065-6512-F GT-2065-6515-F GT-2065-6518-F GT-2065-6524-F GT-2065-6536-F GT-2065-6548-F	9.0 12.0 15.0 18.0 24.0 36.0 48.0	7.22 5.42 4.33 3.61 2.71 1.80 1.36	
		80 Watt Output Model Standard Model GT-2065-553.3-FA GT-2065-5505-FA GT-2065-707.5-FA GT-2065-8009-FA GT-2065-8012-FA GT-2065-8015-FA GT-2065-8018-FA GT-2065-8024-FA GT-2065-8036-FA GT-2065-8048-FA	s: Vdc 3.3 5.0 7.5 9.0 12.0 15.0 18.0 24.0 36.0 48.0	A 16.67 11.00 9.33 8.89 6.67 5.33 4.44 3.33 2.22 1.67	
Standards:		UL 60950-1, 1st Edition Safety - Part 1: Gener CSA C22.2 No. 60950 Equipment - Safety - F	s for ful on, 200 al Requ )-1-03, Part 1: 0	rtner details. 6-07-07 (Information Technolog uirements) 1st Edition, 2006-07 (Informatio General Requirements)	gy Equipment - on Technology
Applicant Name Address:	and	GLOBTEK INC 186 VETERANS DR NORTHVALE NJ 0764 UNITED STATES	47		
This Report incl	udes the follo	wing parts, in addition 1. Specific Technical ( 2. Critical Components 3. Enclosures	to this o Criteria s	cover page:	

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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.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

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:

Daniel Pirozzi Project Engineer Underwriters Laboratories Inc.

Reviewed By:

David Keen 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 mar	kings 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	
Other	1.7.1 Power rating - Ratings	Ratings (voltage, frequency/dc, current)	
	1.7.1 Power rating - Company identification	istee's or Recognized company's name, Trade Name, Trademark or File.	
	1.7.1 Power rating - Model	Model Number	
	1.7.1 Power rating - Class II symbol	Symbol for Class II construction	

BD1.0	Production-Line Testing Requirements						
BD1.1	Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.						
					Te Pote	est ential	
	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:						
BD1.3	Electric Strength Test Exemptions - This test is not required for the following models:						
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:						

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

## **SPECIFIC TECHNICAL CRITERIA**

Informat Pa	UL 60950-1, First Edition ion technology equipment - Safety- art 1: General Requirements
Report Reference No:	E170507-A7-UL-2
Compiled by	Daniel Pirozzi
Reviewed by	David Keen
Date of issue	2007-05-29
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	Component Recognition
Non-standard test method:	N/A
Test item description:	Switching Power Supply, Built-In AC/DC
Trademark	GlobTek, Inc.
Model and/or type reference:	2065 Family - Standard 65W Output Models: GT-2065-333.3-F GT-2065-403.3-F GT-2065-600-F GT-2065-657.5-F GT-2065-6512-F GT-2065-6512-F GT-2065-6518-F GT-2065-6536-F GT-2065-6536-F GT-2065-6538-F Standard 80W Output Models: GT-2065-553.3-FA GT-2065-5505-FA GT-2065-5505-FA GT-2065-8009-FA GT-2065-8012-FA GT-2065-8012-FA GT-2065-8018-FA GT-2065-8018-FA GT-2065-8024-FA GT-2065-8036-FA

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		The models listed ab	ove are	standard models,	upon which custom
		versions are based. see the Model Differe	All units	are based on the section for details.	same nomenclature;
Rating(s)		: Input -			
		Voltage: 100-240 Va Frequency: 50-60 Hz	C ,		
		Current, for all 65W	- units + 3	3.3V and 5.0 V 80W	/ units: 1.5A
		Current, 7.5V throug	h 48V 80	0W units: 2.5A	
		Output -	_		
		65 Watt Output Model	els: Vdo	٨	
		GT-2035-333 3-F	2 2 2 2	A 10.00	
		GT-2065-403 3-F	3.3	12 12	
		GT-2065-4005-F	5.0	8.00	
		GT-2065-657.5-F	7.5	8.67	
		GT-2065-6509-F	9.0	7.22	
		GT-2065-6512-F	12.0	5.42	
		GT-2065-6515-F	15.0	4.33	
		GT-2065-6518-F	18.0	3.61	
		G1-2065-6524-F	24.0	2.71	
		GT-2065-6536-F GT-2065-6548-F	36.0 48.0	1.80	
		80 Watt Output Mode	els:	•	
		Standard Model	Vdc	A 16.67	
		GT-2000-000.0-FA	3.3 5.0	10.07	
		GT-2005-5505-FA	5.0	0.33	
		GT-2005-707.5-1 A	9.0	8.89	
		GT-2065-8012-FA	12.0	6.67	
		GT-2065-8015-FA	15.0	5.33	
		GT-2065-8018-FA	18.0	4.44	
		GT-2065-8024-FA	24.0	3.33	
		GT-2065-8036-FA	36.0	2.22	
		GT-2065-8048-FA	48.0	1.67	
		See Model Difference	es for fu	rther details.	

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Particulars: test item vs. test requirements	
Equipment mobility	for building-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 I (earthed) and Class II (double insulated)
Mass of equipment (kg):	open frame: 0.32kg; metal cage: 0.48kg; mounted to metal plate: 1.22kg
Protection against ingress of water	IP X0

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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

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<b>GENER</b>	AL PRODUCT INFORMATION:
CA1.0	Report Summary
CA1.1	N/A
CB1.0	Product Description
CB1.1	The products covered by this report are switching power supplies, intended to provide power to and intended for use with Information Technology Equipment.
CC1.0	Model Differences
CC1.1	Differences within the 2065 family are limited to minor component changes to determine specific output voltage and current parameters.
	All 2065 Family models covered are represented by the following nomenclature:
	GT-2065CXXYY-Z.Z-D#
	<ul> <li>where:</li> <li>GT- designates GlobTek models with IEC/ UL 60950-1 ITE safety approval;</li> <li>GTM- designates GlobTek models with IEC/ UL 60601-1 Medical safety approval;</li> <li>2065 is the family designation;</li> <li>C designates the use of power factor correction circuitry, where C may be:</li></ul>
U1.1	1 1st Edition. Where test procedures or acceptable limits were more stringent in one standard, data taken was considered acceptable for both standards' requirements.
	This report does not include the investigation or the test report for the triple insulated wire

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	employed in the transformer. A test report for the power supply may be required when submitting this CB Test Report to a National Certification Body (NCB) for obtaining certification at national level.
CE1.0	Technical Considerations
CE1.7	The product was investigated to the following additional standards: EN 60950-1:2001 (which includes all European national differences, including those specified in this test report).
CE2.0	The 2065 Family may be considered Class I (protectively earthed) or Class II (functional earth), depending on the model number suffix.
CE2.1	Additional single fault testing with alternate fuses listed in the Critical Component table were not considered necessary due to the examination of the fuse curves.
CE2.2	This product contains visible indicator LED's only. No IEC 60825-1 evaluation was deemed necessary. Additional testing and evaluation may be required based on auditing agency's discretion.
CE2.3	The product was submitted and tested for use at the manufacturer's recommended ambient temperature (Tmra) of: 55°C (open frame units), 45°C (enclosed units)
CE2.4	The power supply means are: Pluggable A
CE2.5	The product is intended for use on the following systems: TN
CE2.6	The equipment disconnect device is considered to be: Not provided
CF1.0	Engineering Conditions of Acceptability
CF1.1	For use only in or with complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.
	When installed in an end-product, consideration must be given to the following:
CF2.0	Consideration shall be given to performing the following tests in the end product evaluation: Capacitance Discarge, Touch Current, Heating, Electric Strength, and Earthing.
CF2.1	The following Production-Line tests are conducted for this product: Earthing Continuity (Class I products only), Electric Strength,
CF2.2	The following secondary output circuits are SELV: All outputs
CF2.3	The following secondary output circuits are at non-hazardous energy levels: All outputs
CF2.4	The power supply terminals and/or connectors are: Not investigated for field wiring
CF2.5	The maximum investigated branch circuit rating is: 20 A
CF2.6	The investigated Pollution Degree is: 2
CF2.7	Proper bonding to the end-product main protective earthing termination is: Required
CF2.8	The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C): Transformer (T1) - Class B (130°C).
CF2.9	The following end-product enclosures are required: Electrical, Fire, Mechanical
CF3	The maximum continuous wattage output based on forced air cooling is: Dependent upon model number suffix. See Models and Ratings section for details. Testing was performed on "80W Models" using a fan with airflow rated 10 CFM, placed on the transformer (T1) side of the supply,

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so	the direction of the airflow was towards the transformer.
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	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		Pass
1.5.2	Evaluation and testing of components		Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers		Pass
1.5.5	Interconnecting cables		N/A
1.5.6	Capacitors in primary circuits:	Line-to-line capacitors are subclass X1 or X2. Primary- to-earth capacitors are subclass Y1 or Y2.	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	One Y1 capacitor employed (double/reinforced insulation)	Pass
1.5.7.3	Bridging resistors		N/A
1.5.7.4	Accessible parts	Unit is intended for building-in; to be determined in the end product.	N/A
1.5.8	Components in equipment for IT power systems		N/A

1.6	Power interface		Pass
1.6.1	AC power distribution systems	Unit investigated for use on TN(-S) system.	Pass
1.6.2	Input current	(See appended table 1.6.2.)	Pass
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		Pass

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

1.7	Marking and instructions		Pass
1.7.1	Power rating		N/A
	Rated voltage(s) or voltage range(s) (V):		N/A
	Symbol for nature of supply, for d.c. only:		N/A
	Rated frequency or rated frequency range (Hz):		N/A
	Rated current (mA or A):		N/A
	Manufacturer's name or trademark or identification mark	GlobTek, Inc.	Pass
	Type/model or type reference:	See Models and Rating section for models covered.	Pass
	Symbol for Class II equipment only:		N/A
	Other symbols:		N/A
	Certification marks:		N/A
1.7.2	Safety instructions	Accompanying documents not provided. Acceptability to be determined in the end product.	N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment:		N/A
1.7.5	Power outlets on the equipment:		N/A
1.7.6	Fuse identification:	Fuse(s) provided with voltage, current, and special fusing characteristic marking as applicable. See Schematics and PWB Enclosure for details.	Pass
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals:		N/A
1.7.7.2	Terminal for a.c. mains supply conductors		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		N/A
1.7.8.2	Colours:		N/A
1.7.8.3	Symbols according to IEC 60417		N/A
1.7.8.4	Markings using figures:		N/A
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1.7.9	Isolation of multiple power sources:		N/A
1.7.10	IT power distribution systems		N/A
1.7.11	Thermostats and other regulating devices		N/A
1.7.12	Language: N la t N c	May be provided in other languages upon request from the manufacturer. See Miscellaneous Enclosure for details.	-
1.7.13	Durability		N/A
1.7.14	Removable parts		N/A
1.7.15	Replaceable batteries		N/A
	Language:		-
1.7.16	Operator access with a tool:		N/A
1.7.17	Equipment for restricted access locations:		N/A

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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	Unit is intended for building-in; to be determined in the end product.	Pass
2.1.1.1	Access to energized parts		N/A
	Test by inspection		N/A
	Test with test finger:		N/A
	Test with test pin:		N/A
	Test with test probe:		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:		-
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards:		N/A
2.1.1.6	Manual controls		N/A
2.1.1.7	Discharge of capacitors in equipment		Pass
	Time-constant (s); measured voltage (V):	At one second, the following voltages were measured: Line to Neutral = <0.1 V peak Line to Protective Earth = <0.1 V peak Neutral to Protective Earth = 5 V peak	-
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A

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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 71V peak and 120Vdc and do not exceed 42.4V peak or 60V 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:		N/A

2.3	TNV circuits	N/A
2.3.1	Limits	
	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

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

2.4	Limited current circuits	N/A
2.4.1	General requirements	N/A
2.4.2	Limit values	N/A
	Frequency (Hz):	-
	Measured current (mA)	-
	Measured voltage (V):	-
	Measured capacitance (mF)	-
2.4.3	Connection of limited current circuits to other circuits	N/A

2.5	Limited power sources	N/A
	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	N/A
	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)::	-
	Current rating of overcurrent protective device (A):	-

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

2.6	Provisions for earthing and bonding		Pass
2.6.1	Protective earthing	Power supply for building-in. Parts intended to be connected to the PE Terminal in the end product are separated by basic insulation (Class I units only).	N/A
2.6.2	Functional earthing	Power supply for building-in. Functionally earthed parts/circuits are reliable separated from MAINS parts by double/reinforced insulation.	Pass
2.6.3	Protective earthing and protective bonding conductors	Unit is intended for building-in; to be determined in the end product. Bonding conductors were tested and found acceptable.	Pass
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors	Unit is intended for building-in; to be determined in the end product.	N/A
	Rated current (A), cross-sectional area (mm2), AWG:		-
2.6.3.3	Size of protective bonding conductors		Pass
	Rated current (A), cross-sectional area (mm2), AWG:	1.5 A and 2.5 A, 18 AWG	-
2.6.3.4	Resistance (Ohm) of earthing conductors and their terminations, test current (A):	Unit is intended for building-in; to be determined in the end product. Test conducted from earthing tab of Class I units, to end of green/yellow wire provided. Test conditions: 40A (12Vac source), for 2 minutes. Calculated resistance = 0.0031 Ohms.	Pass
2.6.3.5	Colour of insulation:	Protective bonding conductors are green with yellow stripe.	Pass
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals	Unit is intended for building-in; to be determined in the end	N/A

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

		product. Bonding terminals are acceptable.	
	Rated current (A), type and nominal thread diameter (mm):		-
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Unit is intended for building-in; to be determined in the end product.	N/A
2.6.5	Integrity of protective earthing	Unit is intended for building-in; to be determined in the end product.	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

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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		Pass
2.7.2	Faults not covered in 5.3		Pass
2.7.3	Short-circuit backup protection	Fuses are appropriately rated for the application.	Pass
2.7.4	Number and location of protective devices::	One protective device in the "LIVE" phase. May be provided optionally with one protective device in each phase conductor.	Pass
2.7.5	Protection by several devices	When more than one fuse is provided, all protective devices are located together.	Pass
2.7.6	Warning to service personnel:	To be determined in the end- product.	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

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2.9	Electrical insulation		Pass
2.9.1	Properties of insulating materials		Pass
2.9.2	Humidity conditioning		Pass
	Humidity (%):	90%	-
	Temperature (°C):	30°C	-
2.9.3	Grade of insulation		Pass

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2.10	Clearances, creepage distances and distances t	hrough insulation	Pass
2.10.1	General		Pass
2.10.2	Determination of working voltage	390 Vp, 192 Vrms	Pass
2.10.3	Clearances	Unit is provided with greater than	Pass
2.10.3.1	General		Pass
2.10.3.2	Clearances in primary circuit		Pass
2.10.3.3	Clearances in secondary circuits		Pass
2.10.3.4	Measurement of transient voltage levels		N/A
2.10.4	Creepage distances	Unit provided with at least 8.0mm creepage from primary to secondary, and at least 5.0mm from primary to earth.	Pass
	CTI tests:	Material group IIIa; 175 <= CTI < 400 and Material group IIIb; 100 <= CTI < 175.	-
2.10.5	Solid insulation		Pass
2.10.5.1	Minimum distance through insulation		N/A
2.10.5.2	Thin sheet material		Pass
	Number of layers (pcs):	Reinforced Insulation - 3 layers	-
	Electric strength test:	(see appended table 5.2)	-
2.10.5.3	Printed boards		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 extruded layers. See Annex U for additional details.	Pass
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.6	Coated printed boards		N/A
2.10.6.1	General		N/A
2.10.6.2	Sample preparation and preliminary inspection		N/A

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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:	N/A
	Electric strength test:	-
2.10.9	Component external terminations	N/A
2.10.10	Insulation with varying dimensions	N/A

3	WIRING, CONNECTIONS AND SUPPLY		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection		Pass
3.1.2	Protection against mechanical damage	Unit is intended for building-in; to be determined in the end product.	N/A
3.1.3	Securing of internal wiring	Green/Yellow Protective Earth Wire is acceptably secured.	Pass
3.1.4	Insulation of conductors	Green/Yellow Protective Earth Wire is acceptably insulated for Basic Insulation.	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		N/A
	10 N pull test		N/A
3.1.10	Sleeving on wiring		N/A

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3.2	Connection to an a.c. mains supply or a d.c. mai	ns supply	N/A
3.2.1	Means of connection	Unit is intended for building-in; to be determined in the end product.	N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter (mm) of cable and conduits:		-
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type:		-
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG:		-
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N):		-
	Longitudinal displacement (mm):		-
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	D (mm); test mass (g):		-
	Radius of curvature of cord (mm):		-
3.2.9	Supply wiring space		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.3	Wiring terminals for connection of external con	ductors	Pass
3.3.1	Wiring terminals	Applicable to Metal Enclosed Class I and Class II input units only (since those are the only models provided with screw terminals.)	Pass
3.3.2	Connection of non-detachable power supply cords	Unit is intended for building-in; to be determined in the end product.	N/A
3.3.3	Screw terminals		Pass
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> ):	Terminals are sized accordingly to allow the connection of conductors having nominal cross-sectional areas.	-
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type and nominal thread diameter (mm):	Screw type terminals. Minimum nominal thread diameter: 3.5 mm.	-
3.3.6	Wiring terminals design		Pass
3.3.7	Grouping of wiring terminals		Pass
3.3.8	Stranded wire		N/A

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3.4	Disconnection from the mains supply		N/A
3.4.1	General requirement	Unit is intended for building-in; to be determined in the end product.	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Single-phase equipment and d.c. equipment		N/A
3.4.7	Three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

3.5	Interconnection of equipment	
3.5.1	General requirements	N/A
3.5.2	Types of interconnection circuits:	N/A
3.5.3	ELV circuits as interconnection circuits	N/A

4	PHYSICAL REQUIREMENTS		Pass
4.1	Stability		N/A
	Angle of 10°	Unit is intended for building-in; to be determined in the end product.	N/A
	Test: force (N)		N/A

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4.2	Mechanical strength		N/A
4.2.1	General	Unit is intended for building-in; to be determined in the end product.	N/A
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N		N/A
4.2.5	Impact test		N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test		N/A
4.2.7	Stress relief test		N/A
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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4.3	Design and construction		Pass
4.3.1	Edges and corners		N/A
4.3.2	Handles and manual controls; force (N):		N/A
4.3.3	Adjustable controls		N/A
4.3.4	Securing of parts		N/A
4.3.5	Connection of plugs and sockets		N/A
4.3.6	Direct plug-in equipment		N/A
	Dimensions (mm) of mains plug for direct plug-in.:		N/A
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N):		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries		N/A
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids		N/A
	Quantity of liquid (I)		N/A
	Flash point (°C):		N/A
4.3.13	Radiation; type of radiation		Pass
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)	This product contains only visible indicator LEDs (Class 1) operating in the range of	Pass

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		400 - 700 nm wavelength. No IEC60825-1 evaluation was deemed necessary. Additional review may be required at the discretion of the accepting NCB.	
	Laser class:	(For indicator LEDs, see above statement.)	-
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

4.5	Thermal requirements		Pass
4.5.1	Maximum temperatures (see appended table 4.5)		Pass
	Normal load condition per Annex L		N/A
4.5.2	Resistance to abnormal heat		N/A

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	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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4.7	Resistance to fire	N/A
4.7.1	Reducing the risk of ignition and spread of flame	N/A
	Method 1, selection and application of components wiring and materials	N/A
	Method 2, application of all of simulated fault condition tests	N/A
4.7.2	Conditions for a fire enclosure	N/A
4.7.2.1	Parts requiring a fire enclosure	N/A
4.7.2.2	Parts not requiring a fire enclosure	N/A
4.7.3	Materials	N/A
4.7.3.1	General	N/A
4.7.3.2	Materials for fire enclosures	N/A
4.7.3.3	Materials for components and other parts outside fire enclosures	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	N/A
4.7.3.5	Materials for air filter assemblies	N/A
4.7.3.6	Materials used in high-voltage components	N/A

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5	ELECTRICAL REQUIREMENTS AND SIMULATE	D ABNORMAL CONDITIONS	Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General		Pass
5.1.2	Equipment under test (EUT)		Pass
5.1.3	Test circuit		Pass
5.1.4	Application of measuring instrument		Pass
5.1.5	Test procedure		Pass
5.1.6	Test measurements		Pass
	Test voltage (V):	264Vac (60Hz)	-
	Measured touch current (mA):	0.117mA	-
	Max. allowed touch current (mA):	3.5mA	-
	Measured protective conductor current (mA):		-
	Max. allowed protective conductor current (mA) :		-
5.1.7	Equipment with touch current exceeding 3.5 mA:		N/A
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		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

5.2	2 Electric strength		Pass
5.2.1	General		Pass
5.2.2	Test procedure		Pass

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5.3	Abnormal operating and fault conditions		Pass
5.3.1	Protection against overload and abnormal operation		Pass
5.3.2	Motors		N/A
5.3.3	Transformers		Pass
5.3.4	Functional insulation:	Functional insulation complies with the requirements (a), (b), or (c).	Pass
5.3.5	Electromechanical components		N/A
5.3.6	Simulation of faults		Pass
5.3.7	Unattended equipment		N/A
5.3.8	Compliance criteria for abnormal operating and fault conditions		Pass

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 overvoltage networks	s on telecommunication	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

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

7	CONNECTION TO CABLE DISTRIBUTION SYSTE	MS	N/A
7.1	Protection of cable distribution system service perso equipment connected to the system, from hazardous	ns, and users of other s 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

А	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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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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В	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	-
	Туре	-
	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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С	Annex C, TRANSFORMERS (see 1.5.4 and 5.3.3)		Pass
	Position:	T1	-
	Manufacturer:	GlobTek or Sunny	-
	Туре:	??	-
	Rated values:	??	-
	Method of protection:	??	-
C.1	Overload test		Pass
C.2	Insulation		Pass
	Protection from displacement of windings	Triple insulated wire used.	Pass

D	Annex D, MEASURING INSTRUMENTS FOR TOU	CH-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	E	Annex E, TEMPERATURE RISE OF A WINDING	N/A
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F	Annex F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES	Pass
	(see 2.10)	

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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
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J	Annex J, TABLE OF ELECTROCHEMICAL POTE	NTIALS (see 2.6.5.6)	N/A
	Metal used		-

К	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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L	Annex L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)	N/A
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	N/A

М	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 2.1 clause G.5)	10.3.4, 6.2.2.1, 7.3.2 and	N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A

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	Р	Annex P, NORMATIVE REFERENCES	Pass
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Q Annex Q, BIBLIOGRAPHY	Pass
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R	Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES			
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)		
S.1	Test equipment	N/A	
S.2	Test procedure	N/A	
S.3	Examples of waveforms during impulse testing	N/A	

Т	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)			
	·	Furukawa TEX-E wire provided. This report does not include the investigation or the test report for the triple insulated wire employed in the transformer. A test report for the power supply may be required when submitting this CB Test Report to a National Certification Body (NCB) for obtaining certification at national level.	_	

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1.5.1	TABLE: list of critica	l components				Pass
Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Supplement ID
Printed Wiring Board	Wan Nien or equivalent	03V0	Min V-1, min 105°C, rated for direct support of live parts	ZPMV2	UL	
Label	Colorful Printing	C-002 or C-004	100 °C, V-0	PDGQ2	UL	
Label Alternate	JinLing Printing Factory	GL-18000(S)	100 °C, V-0	PDGQ2	UL	
Input Connector for - F(W) Versions			250V, 5A, 3.96mm, Center pin removed, rated min V-2.	ECBT2	UL	
Input Connector for - HXXX(W) Version			250V, 5A Center pin removed, rated min v-2	ECBT2	UL	
Input Connector For -(E)XXX(W) Version			300V, 25A 2 PINS	XCFR2	UL	
Input and output Connector For -(E)XXX Version			300V 25A 7 PINS	XCFR2	UL	
Fuse (F1, F2)			For =<65W units: 250V, 2 A, time delay; For 80W units: 250V, 3.15A or 3.5 A, time delay	JDYX	UL	
Fuse (F1, F2) - Alternate	Wickmann/ Littelfuse	372/TR5	For =<65W units: 250V, 2 A, time delay; For 80W units: 250V, 3.15A or 3.5 A, time delay	JDYX2	UL	
Fuse (F1, F2) - Alternate	BEL	5STP	For =<65W units: 250V, 2 A, time delay;	JDYX2	UL	

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			For 80W units: 250V, 3.15A or			
			3.5 A, time delay			
Fuse (F1, F2) -	Wickmann/ Littelfuse	195	For =<65W units: 250V, 2 A,	JDYX2	UL	
Alternate			time delay;			
			For 80W units: 250V, 3.15A or			
			3.5 A, time delay			
Fuse (F1, F2) -	BEL	MRT	For =<65W units: 250V, 2 A,	JDYX2	UL	
Alternate			time delay;			
			For 80W units: 250V, 3.15A or			
			3.5 A, time delay			
Fuse (F1, F2) -	ELU	166050	For =<65W units: 250V, 2 A,	JDYX2	UL	
Alternate			time delay;			
			For 80W units: 250V, 3.15A or			
			3.5 A, time delay			
Fuse (F1, F2) -	Walter	TSD	For =<65W units: 250V, 2 A,	JDYX2	UL	
Alternate			time delay;			
			For 80W units: 250V_3 15A or			
			35 A time delay			
Fuse (F1, F2) -	Sun	5TP	For =<65W units: 250V. 2 A.	JDYX2	UL	
Alternate			time delay;			
			For 80W units: 250V, 3.15A or			
			3.5 A, time delay			
Fuse (F1, F2) -	Wickmann/ Littelfuse	392/TE5	For =<65W units: 250V, 2 A,	JDYX2	UL	
Alternate			time delay;			
			For 80W units: 250V, 3.15A or			
			3.5 A, time delay			
Fuse (F1, F2) -	Wickmann/ Littelfuse	396/TE5	For =<65W units: 250V, 2 A,	JDYX2	UL	
Alternate			time delay;			

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			For 80W units: 250V, 3.15A or			
Fuse (F1, F2) - Alternate	BEL	RST	For =<65W units: 250V, 2 A, time delay;	JDYX2	UL	
			For 80W units: 250V, 3.15A or 3.5 A, time delay			
Fuse (F1, F2) - Alternate	Conquer	SAT	For =<65W units: 250V, 2 A, time delay;	JDYX	UL	
			For 80W units: 250V, 3.15A or 3.5 A, time delay			
Fuse (F1, F2) - Alternate	Conquer	MAT	For =<65W units: 250V, 2 A, time delay;	JDYX	UL	
			For 80W units: 250V, 3.15A or 3.5 A, time delay			
Internal Protective Earth Wiring			Min300V, 105°C, AWM Style 1007, 18AWG	AVLV2	UL	
Transformer (T1) 3.3V	Sunny/ Globtek/ Heng Chi Li	See Diagrams Enclosure for part numbers as they correspond to the particular power supply model number.	Provides reinforced/double insulation. Provided w/ R/C Class B (130°C) insulation system. See Diagrams Enclosure for details.			
Insulation System (employed in T1)	Sunny	ST-2804	Class B (130°C). For transformers manufactured by Sunny only.	OBJY2	UL	
Insulation System (employed in T1)	Globtek	GTX-1	Class B (130°C). For transformers manufactured by	OBJY2	UL	

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			GlobTek only.			
Insulation System (employed in T1)	Heng Chi Li	HCL001	Class B (130°C). For transformers manufactured by Heng Chi Li only.	OBJY2	UL	
Line to Line Capacitor (CX1)	UTX	HQX	250V, 0.47uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX1) Alternate	Arco	МКР	250V, 0.47uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX1) Alternate	Pilkor	PCX Series	250V, 0.47uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX1) Alternate	Philips	PCX2335	250V, 0.47uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX1) Alternate	Okaya	RE	250V, 0.47uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX1) Alternate	Dain	MPX	250V, 0.47uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX1) Alternate	Europtronics	MPX#	250V, 0.47uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX2)	UTX	HQX	250V, 0.15uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX2) Alternate	Arco	MKP	250V, 0.15uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX2) Alternate	Pilkor	PCX Series	250V, 0.15uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor (CX2) Alternate	Philips	PCX2335	250V, 0.15uF maximum, Class X2	FOKY2, FOWX2	UL	
Line to Line Capacitor	Okaya	RE	250V, 0.15uF maximum, Class	FOKY2, FOWX2	UL	

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(CX2) Alternate			X2			
Line to Line Capacitor	Dain	MPX	250V, 0.15uF maximum, Class	FOKY2, FOWX2	UL	
(CX2) Alternate			X2			
Line to Line Capacitor	Europtronics	MPX#	250V, 0.15uF maximum, Class	FOKY2, FOWX2	UL	
(CX2) Alternate			X2			
Line to Earth Capacitor	Pan Overseas	AC#	250V, 1n maximum, min Class	FOKY2, FOWX2	UL	
(CY1, CY2)			Y2			
Line to Earth Capacitor	JNC	JN	250V, 1n maximum, min Class	FOKY2, FOWX2	UL	
(CY1, CY2)			Y2			
Alternate						
Line to Earth Capacitor	Murata	KH#	250V, 1n maximum, min Class	FOKY2, FOWX2	UL	
(CY1, CY2)			Y2			
Alternate						
Line to Earth Capacitor	TDK	CS	250V, 1n maximum, min Class	FOKY2, FOWX2	UL	
(CY1, CY2)			Y2			
Alternate						
Line to Earth Capacitor	Success	SF	250V, 1n maximum, min Class	FOKY2, FOWX2	UL	
(CY1, CY2)			Y2			
Alternate						
Line to Earth Capacitor	Welson	KL	250V, 1n maximum, min Class	FOKY2, FOWX2	UL	
(CY1, CY2)			Y2			
Alternate						
Line to Earth Capacitor	Pan Overseas	AC#	250V, 470pF maximum, min	FOKY2, FOWX2	UL	
(CY7, CY8)			Class Y2			
Line to Earth Capacitor	JNC	JN	250V, 470pF maximum, min	FOKY2, FOWX2	UL	
(CY7, CY8)			Class Y2			
Alternate						
Line to Earth Capacitor	Murata	KH#	250V, 470pF maximum, min	FOKY2, FOWX2	UL	
(CY7, CY8)			Class Y2			
Alternate						
Line to Earth Capacitor	TDK	CS	250V, 470pF maximum, min	FOKY2, FOWX2	UL	
(CY7, CY8)			Class Y2			
Alternate						
Line to Earth Capacitor	Success	SB	250V, 470pF maximum, min	FOKY2, FOWX2	UL	

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(CY7, CY8) Alternate			Class Y2			
Line to Earth Capacitor (CY7, CY8) Alternate	Welson	KL	250V, 470pF maximum, min Class Y2	FOKY2, FOWX2	UL	
Capacitor, bridging (CY3, CY4)	Pan Overseas	AH	250V, 0.47uF maximum, rated Y1	FOKY2, FOWX2	UL	
Capacitor, bridging (CY3, CY4) Alternate	Murata	КХ	250V, 0.47uF maximum, rated Y1	FOKY2, FOWX2	UL	
Capacitor, bridging (CY3, CY4) Alternate	TDK	CD	250V, 0.47uF maximum, rated Y1	FOKY2, FOWX2	UL	
Capacitor, bridging (CY3, CY4) Alternate	Welson	WD	250V, 0.47uF maximum, rated Y1	FOKY2, FOWX2	UL	
Capacitor, bridging (CY3, CY4) Alternate	Chun Fyu	CD	250V, 0.47uF maximum, rated Y1	FOKY2, FOWX2	UL	
Diode Bridge (BD1)			600V 4A minimum			
Capacitor (C1)			400V, 150uF maximum			
Capacitor (C3)			25V, 560uF maximum			
MOV (VDR1)	Panasonic	ERZ-V10D511	510Vac	FOWX2	UL	
MOV (VDR1) Alternate	Centra Science	10D511K	320Vac	XUHT2	UL	
MOV (VDR1) Alternate	Song Long Electronics	SAS511KD10SB NE	320Vac	XUHT2	UL	
MOV (VDR1) Alternate			270Vac	XUHT2	UL	
Resistor, bleeder (R1, R2)			360kohm if CX1 is above 0.1uF, 1Meg ohm if CX1 is 0.1uF and below 1/4W, 400V			
Resistor, bleeder (R1, R2)			1M ohm, 1/4W, 400V			
MOSFET (Q1)			600V min, drain current = 10A min			
Optical Isolator (U2, U4)	Liteon	LTV817C	5000Vac isolation	FPQU2	UL	
Optical Isolator (U2, U4)	Cosmo	817X	5000Vac isolation	FPQU2	UL	

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Alternate						
Optical Isolator (U2, U4) Alternate	Sharp	PC817	5000Vac isolation	FPQU2	UL	
Optical Isolator (U2, U4) Alternate	Matsushita	ON3171	5000Vac isolation	FPQU2	UL	
Optical Isolator (U2, U4) Alternate	Everlight	EL817C	5000Vac isolation	FPQU2	UL	
Zener Diode (ZD100/101)	Hitachi or various	ZMMXX - where XX is the zener voltage or equivalent	3.3V to 56V zener clamping voltage			
Output Connector for F(W) Version			250V, 5A, rated min V-2.	ECBT2	UL	
Output Connector for HXXX(W) Version			250V, 5A, rated min v-2	ECBT2,	UL	
Output Connector For (E)XXX(W) Version			300V 25A 4 PINS	XCFR2	UL	
Base plate for (E)XXX(W) Version			Aluminum or Steel, Dimensions: minimum 76.2mm by 127mm, maximum 762mm by 1270mm; max 3mm thick. Top cover as described under "enclosure" below.			
Enclosure for (E)XXX(W) Version			Top Cover: provided with holes on top and 3 sides. Hole diameter is 4.5mm, distance between holes (center to center) is 6mm; 0.6mm thick. Bottom is up to 3mm thick, overall 161mm by 90.4mm.			
Insulator between PCB and Chassis for (E)XXX(W) Version	Formex (a Division of ITW)	Formex, Formex GK	Rated min V-0, min thickness of 0.43mm	QMFZ2	UL	

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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	
GTM20							
65P333.							
3-F(w)							
Rated	1.5	90, 60Hz	48.4	0.67			
Rated	1.5	100, 60Hz	47.2	0.57		Pass	
Rated	1.5	120, 60Hz	45.8	0.44		Pass	
Rated	1.5	132, 60Hz	45.2	0.40		Pass	
Rated	1.5	200, 50Hz	44.8	0.296		Pass	
Rated	1.5	220, 50Hz	44.7	0.29		Pass	
Rated	1.5	230, 50Hz	44.9	0.29		Pass	
Rated	1.5	250, 50Hz	45.0	0.29			
Rated	1.5	264, 50Hz	45.3	0.29			
GIM20							
65P553.							
3-F(W)	1 5		26.6	0.40			
Rated	1.5	90, 60HZ	30.0	0.49		 Dooo	
Rated	1.5	100, 60HZ	30.9	0.40		Pass	
Rated	1.5	120, 60HZ	42.0	0.41		Pass	
Rated	1.5	132, 60HZ	43.9	0.39		Pass	
Rated	1.5	200, 50HZ	40.7	0.31		Pass	
Rated	1.5	220, 50HZ	40.0	0.30		Pass	
Rated	1.0	230, 50HZ	40.7	0.29		Pass	
Rated	1.5	250, 50HZ	40.9	0.29			
	1.5	204, 30112	40.9	0.29			
65P65/							
8-F(w)							
Rated	1.5	90. 60Hz	61.3	0.813			
Rated	1.5	100. 60Hz	69.5	0.845		Pass	
Rated	1.5	120, 60Hz	78.4	0.823		Pass	
Rated	1.5	132, 60Hz	78.2	0.730		Pass	
Rated	1.5	200, 50Hz	77.0	0.464		Pass	
Rated	1.5	220, 50Hz	77.0	0.428		Pass	
Rated	1.5	230, 50Hz	77.3	0.416		Pass	
Rated	1.5	250, 50Hz	77.3	0.397			
Rated	1.5	264, 50Hz	77.3	0.388			
GTM20							
65P804							
8-F(w)							
Rated	2.5	90, 60Hz	76.6	1.00			
Rated	2.5	100, 60Hz	81.3	0.98		Pass	
Rated	2.5	120, 60Hz	90.1	0.95		Pass	
Rated	2.5	132, 60Hz	94.5	0.90		Pass	
Rated	2.5	200, 50Hz	92.3	0.55		Pass	

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Rated	2.5	220, 50Hz	92.3	0.51		Pass
Rated	2.5	230, 50Hz	92.2	0.49		Pass
Rated	2.5	250, 50Hz	92.7	0.47		
Rated	2.5	264, 50Hz	92.7	0.45		
supplementary information:						

2.10.3 and 2.10.4	d TABLE: clearance and creepage distance measurements						
clearance cl distance dcr	and creepage at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)
Input to Outp Double/Rein	out - forced	192	390	4.0	5.0	5.0	8.0
Input to PE		192	390	2.0	2.5	2.5	4.0
Input to Chassis		192	390	2.0	2.5	2.5	4.0
supplementary information:							

2.10.5 TABLE: distance through insulation measurements						
distance through insulation di at/of:     Up (V)     test voltage (V)     required di (mm)						
Optical Isola	tors	390	5656	0.4	0.4	
supplementary information:						

4.5 TABLE: temperature rise measurements						Pass	
	test voltage (V)	Test	Test B -				_
	5 ( )	A - 90	264 Vac,				
		Vac,	50 Hz				
		60 Hz					
	t1 (°C)	See					
		below					
	t2 (°C)		See				_
	£ ( 0)		below.				
maximum temperature T of part/at:				T (°C)			allowed Tmax (°C)
Mode	GTM2065P333.3-F(W)						

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		1	1	n	r	
BD1	56.1	30.7				
LF1	24.7	14.2				90
LF2	37.7	22.8				90
L1	42.8	23.0				90
Q3	39.5	45.8				
T1 Coil	47.4	43.9				110
T1 Core	39.6	38.4				
D101	53.5	47.9				
L100	51.1	44.8				90
CON1 (Input connector)	10.0	6.5				
CON3 (Output connector)	37.1	33.6				
Ambient	24.0#	24.0#				25
Model GTM2065P553 3-F(W)						
BD1	31.1	10.4				
	13.1	22				
	12.1	Z.Z 1 5				30
	12.4	4.0				90
	19.3	0.4				90
	9.6	9.7				
	28.3	19.2				110
11 Core	9.8	7.4				
D101	38.8	28.9				
L100	25.0	19.4				90
CON1 (Input connector)	3.0	0.8				
CON3 (Output connector)	16.5	13.3				
Ambient	24.0#	24.0#				25
Model GTM2065P6548-F(W)						
BD1	58.1	33.9				
LF1	27.7	15.9				90
LF2	42.9	24.1				90
L1	45.0	34.0				90
Q3	43.1	59.6				
T1 Coil	45.7	52.6				110
T1 Core	44.7	46.6				
D101	41.5	38.9				
L100	19.9	28.8				90
CON1 (Input connector)	15.2	12.2				
CON3 (Output connector)	21.4	23.1				
		_				
Ambient	24.0#	24.0#				25
Model GTM2065P8048-F(W)						
BD1	39.3	17 4				
L F1	12.9	3.6				90
1F2	27.8	13.2				90
	26.7	13.4				90
	71	12.4				
	1. <del>4</del>	12.0	- <b>-</b>	- <b>-</b>		110
	0.0	0.2				110

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T1 Core	3.7	6.6				
D101	12.3	12.3				
L100	3.7	5.2				90
CON1 (Input connector)	5.6	2.5				
CON3 (Output connector)	2.9	4.8				
Ambient	24.0#	24.0#				25
Model GTM2065P6548-E000						
T1 Coil @	63.8					110
Enclosure above T1@	22.1					
temperature T of winding:		R₁ (Ω)	$R_2(\Omega)$	T (°C)	allowed	insulation
				· · · /	Tmax (°C)	class
supplementary information:						
# - actual temp measurement, not a rise: @ - measurements at 264Vac. 50Hz only: Due to the usage of						

thermocouple measurement, 10°C was deducted from each winding maximum temperature.

4.5.2 TABLE: ball pressure test of thermoplastics						
	allowed impression diameter (mm) :			—		
part		test temperature (°C)	impressi (	on diameter mm)		
supplementary information:						

4.7	7 TABLE: resistance to fire					
part		manufacturer of material	type of material	thickness(mm)	flammability class	
supple	supplementary information:					

5.2	TABLE: electric strength tests, impulse tests and voltage surge tests					
test voltage applied between:		test voltage (V) breakdow a.c./d.c. Yes / No		akdown s / No		
Primary - Protective Earth		2121	No			

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Primary - Functional Earth	5656	No		
Primary - Secondary	5656	No		
For Model GTM2065P6548-E000				
Primary -Protective Earth/Chassis	2121	No		
Primary - Secondary	5656	No		
supplementary information:				

5.3	TABLE: fault co	ndition tests					Pass
	ambient temperat	ture (°C)		:	24.0		_
	model/type of pov	wer supply		:	: See below.		_
	manufacturer of p	ower supply		:	GlobTek		_
	rated markings of	f power supply		:	See Models an	d Ratings.	
component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result	
BD1	Short circuit (~ to +)	264 Vac, 50 Hz	See remarks			1 sec, F1/F2, IP NT - GTM2065P65	9, NB, NC, 48-F
Q3	Short circuit (D to S)	264 Vac, 50 Hz	See remarks			1 sec, F1/F2, IP, NB, NC, NT, CD - GTM2065P6548-F	
D101	Short circuit (an- to cathode)	264 Vac, 50 Hz	See remarks			1 sec, F1/F2, IP NT, CD - GTM2065P65	9, NB, NC, 48-F
U2	Short circuit (1 to 2)	264 Vac, 50 Hz	See remarks			15 min, F1/F2, I - GTM2065P65	NC, NT, NB 48-F
U4	Short circuit (1 to 2)	264 Vac, 50 Hz	See remarks			15 min, F1/F2, I - GTM2065P65	NC, NT, NB 48-F
U2	Short circuit (3 to 4)	264 Vac, 50 Hz	See remarks			50 min, F1/F2, 0 on T1) NB, NC, - GTM2065P65	CT (94.8°c NT 48-F
U4	Short circuit (3 to 4)	264 Vac, 50 Hz	See remarks			45 min, F1/F2, 0 T1) NB, NC, NT - GTM2065P65	CT (76°c on - 48-F
R105	Short circuit	264 Vac, 50 Hz	See remarks			15 min, F1/F2, I - GTM2065P65	NB, NC, NT 48-F
ZD101	Open circuit	264 Vac, 50 Hz	See remarks			50 min, F1/F2, 0 T1)NB, NC, NT - GTM2065P65	CT (89°c on 48-F
Output	Short Circuit	264 Vac, 50 Hz	See remarks			1h 30 min, F1/F - GTM2065P33	2, 67.5°c 3.3-F
Output	Overload	264 Vac, 50 Hz	See remarks			1h 10 min, F1/F - GTM2065P33	2, 118.4°c 3.3-F

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Output	Short Circuit	264 Vac, 50	See			1h 30 min, F1/F2, 64.7°c
		Hz	remarks			- GTM2065P6548-F
Output	Overload	264 Vac, 50	See			1h 10 min, F1/F2, 82.1°c
		Hz	remarks			- GTM2065P6548-F
supplemen	supplementary information:					

### **Enclosure**

### National Differences

USA / Canada

	IEC 60950-1		
SubClause	Difference + Test	Result - Remark	Verdict

	USA / Canada - Differences to IEC 60950-1:200	01, First Edition	
1.1	Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code, Part1, and when applicable, the National Electrical Safety Code, IEEE C2.		Pass
1.1.1	Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions.		Pass
1.1.2	Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded.		N/A
1.1.2	Special requirements apply to equipment intended for use outdoors.		N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20 A.		N/A
1.5.1	All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of CSA and UL component standards in Annex P.1.		Pass
1.5.1	All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of CSA and UL component standards in Annex P.2.		Pass
1.5.5	Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.		N/A
1.5.5	For other than limited power and TNV circuits, the type of output circuit identified for output connector.		N/A
1.5.5	External cable assemblies that exceed 3.05 m in length to be types specified in the NEC and CEC.		N/A
1.5.5	Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable.		N/A
1.5.5	Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.		N/A
1.5.5	Telephone line and extension cords and the like comply with UL 1863 and CSA C22.2 No. 233.		N/A
1.6.1.2	Equipment intended for connection to a d.c. power (mains) distribution system is subject to special		N/A

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	circuit classification requirements (e.g., TNV-2)	
1.6.1.2	Earthing of d.c. powered equipment provided.	N/A
1.7	Lamp replacement information indicated on lampholder in operator access area.	N/A
1.7.1	Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor.	N/A
1.7.1	Equipment voltage rating not higher than rating of the plug except under special conditions.	N/A
1.7.6	Special fuse replacement marking for operator accessible fuses.	N/A
1.7.7	Identification of terminal connection of the equipment earthing conductor.	N/A
1.7.7	Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.	N/A
1.7.7	Marking located adjacent to terminals and visible during wiring.	N/A
2.1.1	Screw shell of Edison-base lampholder tied to the neutral conductor.	N/A
2.1.1.1	Bare TNV conductive parts in the interior of equipment normally protected against contact by a cover intended for occasional removal are exempt provided instructions include directions for disconnection of TNV prior to removal of the cover.	N/A
2.3.1.b	Other telecommunication signaling systems (e.g., message waiting) than described in 2.3.1(b) are subject to M.4.	N/A
2.3.1.b	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the maximum current limit through a 2000 Ohm or greater resistor with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions.	N/A
2.3.1.b	Limits for measurements across 5000 ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.	N/A
2.3.2	Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications when subjected to special construction requirements and routine testing.	N/A

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2.3.2	In the event of a single fault, the limits of 2.2.3 apply to SELV circuits and accessible conductive parts.		Pass
2.5	Overcurrent protection device required for Class 2 and Class 3 limiting in accordance with the NEC, or for a Limited Power Source, not interchangeable with devices of higher ratings if operator replaceable.		N/A
2.6	Equipment having receptacles for output a.c. power connectors generated from an internal separately derived source have the earthed (grounded) circuit conductor suitably bonded to earth.		N/A
2.6.3.3	For Pluggable Equipment Type A, if neither a) or b) are applicable, the current rating of the circuit is taken as 20 A.		Pass
2.6.3.4	Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.		Pass
2.6.3.4	Protective bonding conductors and their terminals of non-standard constructions (e.g. PWB traces) evaluated to limited short-circuit test of CSA C22.2 No.0.4.		N/A
2.6.4.1	Field wiring terminals for earthing conductors suitable for wire sizes (gauge) used in US and Canada.		N/A
2.7.1	Data for selection of special external branch circuit overcurrent devices marked on the equipment.		N/A
2.7.1	Standard supply outlets protected by overcurrent device in accordance with the NEC, and CEC, Part 1.		N/A
2.7.1	Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring.		N/A
2.7.1	Additional requirements for overcurrent protection apply to equipment provided with panelboards.		N/A
2.7.1	Non-motor-operated equipment requiring special overcurrent protective device marked with device rating.		N/A
2.10.5.4	Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.4 and Annex U.	Wire is UL R/C OBJS2. See Annex U for further details.	Pass
3.1.1	Permissible combinations of internal wiring/external		Pass

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	cable sizes for overcurrent and short circuit protection.		
3.1.1	All interconnecting cables protected against overcurrent and short circuit.		N/A
3.2	Wiring methods permit connection of equipment to primary power supply in accordance with the NEC and CEC, Part 1.	Unit is intended for building-in; to be determined in the end product.	N/A
3.2.1	Permitted use for flexible cords and plugs.		N/A
3.2.1	Flexible cords provided with attachment plug rated 125% of equipment current rating.		N/A
3.2.1	Any Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug.		N/A
3.2.1.2	Equipment intended for connection to DC mains supply power systems complies with special wiring requirements (e.g., no permanent connection to supply by flexible cord).		N/A
3.2.1.2	Equipment with one pole of the DC mains supply connected to both the equipment mains input terminal and the main protective earthing terminal provided with special instructions and construction provisions for earthing		N/A
3.2.1.2	Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection.		N/A
3.2.1.2	Special markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to earthing conductor at the equipment.		N/A
3.2.1.2	Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the earthing conductor at the equipment.		N/A
3.2.1.2	Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard.		N/A
3.2.3	Permanently connected equipment has provision for connecting and securing a field wiring system (i.e. conduit, or leads etc.) per the NEC and CEC,		N/A

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	Part 1.		
3.2.3	Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG (0.82 mm <sup>2</sup> ) and not less than 152 mm in length for connection of field installed wiring.		N/A
3.2.3	If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate.		N/A
3.2.3	Equipment compatible with suitable trade sizes of conduits and cables.		N/A
3.2.5	Length of power supply cord limited to between 1.5 and 4.5 m unless shorter length used when intended for a special installation.		N/A
3.2.5	Conductors in power supply cords sized according to NEC and CEC, Part I.		N/A
3.2.5	Power supply cords and cord sets incorporate flexible cords suitable for the particular application.		N/A
3.2.6	Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source.		N/A
3.2.9	Adequate wire bending space and volume of field wiring compartment required to properly make the field connections.		N/A
3.2.9	Equipment intended solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system. A method of securing wiring or instructions provided to ensure the wiring is protected from abuse.		N/A
3.3	Field wiring terminals provided for interconnection of units for other then LPS or Class 2 circuits also comply with 3.3.		N/A
3.3	Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than those specified in 3.3 if wiring is reliably separated.		N/A
3.3.1	Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means.	Neutral terminal marked with a large letter "N".	Pass
3.3.3	Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm <sup>2</sup> ) or smaller conductor if provided with upturned lugs, cupped		Pass

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	washer or equivalent retention.	
3.3.4	Terminals accept wire sizes (gauge) used in the U.S. and Canada.	Pass
3.3.4	Terminals accept current-carrying conductors rated 125% of the equipment current rating.	Pass
3.3.6	Field wiring terminals marked to indicate the material(s) of the conductor appropriate for the terminals used.	N/A
3.3.6	Connection of an aluminum conductor not permitted to terminal for equipment earthing conductor.	Pass
3.3.6	Field wiring connections made through the use of suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads.	N/A
3.4.2	Separate motor control device(s) required for cord- connected equipment rated more than 12 A, or with motor rated more than 1/3 hp or more than 120 V.	N/A
3.4.8	Vertically mounted disconnect devices oriented so up position of handle is "on".	N/A
3.4.11	For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 min require battery disconnect means.	N/A
4.2.8.1	Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more.	N/A
4.2.9	Compartment housing high-pressure lamp marked to indicate risk of explosion.	N/A
4.3.2	Loading test for equipment with handle(s) used to support more than 9 kg tested at four times the weight of the unit.	N/A
4.3.6	In addition to the IEC requirements, Direct Plug-in Equipment complies with UL 1310 or CSA 223 mechanical assembly requirements.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with ANSI/NFPA 30(Table NAE.6).	N/A
4.3.12	Equipment using replenishable liquids marked to indicate type of liquid to be used.	N/A
4.3.13.2	Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation where readily visible.	N/A

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4.3.13.5	Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370).	N/A
4.7	Automated information storage equipment intended to contain more than 0.76 m <sup>3</sup> of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system.	N/A
4.7.3.1	Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke producing characteristics. Low smoke-producing characteristics evaluated according to UL 2043. Equipment for installation in space used for environmental air as described in Sec. 300-22(c) of the NEC provided with instructions indicating suitability for installation in such locations.	N/A
4.7.3.1	Flame spread rating for external surface of combustible material with exposed area greater than 0.93 m <sup>2</sup> or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications.	N/A
4.7.3.4	Wire marked "VW-1" or "FT-1" considered equivalent.	N/A
5.1.8.2	Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.	N/A
5.1.8.3	Touch current due to ringing voltage for equipment containing telecommunication network leads.	N/A
5.3.6	Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.	N/A
5.3.6	Tests interrupted by opening of a component repeated two additional times.	Pass
5.3.8.1	Test interrupted by opening of wire or trace subject to certain conditions.	N/A
6	Specialized instructions provided for telephones that may be connected to a telecommunications network.	N/A
6	Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.	N/A
6.2.1	Special requirements for enameled wiring used as electrical separation provided between parts	N/A

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	connected to telecommunication network and telecommunication circuitry intentionally isolated from network.	
6.2.1	Digital line termination equipment (e.g., NCTE) subject to separation requirements.	N/A
6.3	Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection.	N/A
6.3	Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable.	N/A
6.4	Additional requirements for equipment intended for connection to a telecommunication network using cable subject to overvoltage from power line failures (Fig. 6C).	N/A
6.4	Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions.	N/A
6.5	Acoustic pressure from an ear piece less than 136 dBA for short duration disturbances, and less than 125 dBA for handsets, 118 dBA for headsets, and 121 dBA for insert earphones, for long duration disturbances.	N/A
7	Equipment associated with the cable distribution system may need to be subjected to applicable parts of Chapter 8 of the NEC.	N/A
Н	Ionizing radiation measurements made under single fault conditions in accordance with the requirements of the Code of Federal Regulations 21 CFR 1020 and the Canadian Radiation Emitting Devices Act, REDR C1370.	N/A
M.2	Continuous ringing signals evaluated to Method A subjected to special accessibility considerations.	N/A
M.4	Special requirements for message waiting and similar telecommunications signals.	N/A
NAC	Equipment intended for use with a generic secondary protector marked with suitable instructions.	N/A
NAC	Equipment intended for use with a specific primary or secondary protector marked with suitable instructions.	N/A

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NAF	Household/Home Office Document Shredders		N/A
NAF.1.7	Markings and instructions alert the user to key safety considerations related to use of shredders, including not intended to be used by children, avoid touching document feed opening, avoid clothes and hair entanglement, and avoid aerosol products.		N/A
NAF.2.8.3	Safety interlock cannot be inadvertently activated by the articulated accessibility probe (figure NAF.1).		N/A
NAF.3.4	Provided with an isolating switch complying with 3.4.2, including 3 mm contact gap, with appropriate markings associated with the switch.		N/A
NAF.4.4	Hazardous moving parts are not accessible to the user, as determined using the articulated accessibility probe (figure NAF.1) and the accessibility probe/wedge (figures NAF.2/NAF.3).		N/A