Underwriters Laboratories (UL LLC)
Safety Report

Model:	CHD250PSXXYY, (where the "XX" can be any number between 12 to 48 indicating main output voltage, "YY" can be SF or blank indicating Single Fuse), may also be provided with additional suffixes "-S", "-C", "-L", and/or "A"
Device Description:	Component power supply
Applicant:	XP POWER LLC 15641 Red Hill Ave., Ste. 100 Tustin, CA 97280 USA
Manufacturer:	Same as Applicant
Manufacturing Facility(ies):	XP Power Inc 990 Benecia Ave Sunnyvale CA 94085-2804 USA XP POWER (VIETNAM) CO LTD LOT D - 4Q - CN MY PHUOC 3 INDUSTRIAL PARK BEN CAT DISTRICT BINH DUONG VIETNAM XP POWER (KUNSHAN) LTD 230 BIN JIANG NAN RD ZHANGPU TOWN KUNSHANJIANGSU, 215321 CHINA
Report No.:	E146893-D1002-1-ULCB
Report (Re)Issue Date:	2015-03-31
Base Standard(s):	ANSI/AAMI ES60601-1:2005/(R)2012, CSA CAN/CSA-C22.2 NO. 60601-1:14, IEC 60601-1 Edition 3.1 (2012)
Report Types:	This report consists of the following report types: [Yes] US Certification (UL Recognition) [Yes] CAN Certification (cUL Recognition) [Yes] CB Report & Certificate IEC/EN Informative Report

This report covers the Safety evaluation of the referenced model(s) according to the standard(s) specified above.

The **CB Certificate** is provided as a separate enclosure to this report and not provided in the body of this report.

Table of Contents

Report Modifications Summary

The following changes were made to this report. If none listed in the below table, this report is the originally issued report.

Date Modified *(Year-Month-Day)*	Modifications Made (include Report Reference Number)	Modified By
< ReportMod >		

Test Report issued under the responsibility of:

IEC 60601-1
Medical electrical equipment
Part 1: General requirements for basic safety and essential performance

Report Reference No. ....:	E146893-D1002-1-ULCB
Date of issue ....:	2015-03-31
Total number of pages ....:	343
CB Testing Laboratory ....:	UL Camas
Address ....:	2600 N.W. Lake Road, Camas, WA, 98607, USA
Applicant's name ....:	XP POWER LLC
Address ....:	15641 Red Hill Ave., Ste. 100 Tustin, CA 97280 USA
Test specification:	
Standard ....:	IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)
Test procedure ....:	CB Scheme
Non-standard test method………..:	N/A
Test Report Form No. ....:	IEC60601_1J
Test Report Form Originator ....:	UL(US)
Master TRF ....:	2014-07

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

General disclaimer:

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

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

Test item description:	Component power supply
Trade Mark:	Refer to Marking Label enclosure
Manufacturer:	Same as Applicant
Model/Type reference:	CHD250PSXXYY, (where the "XX" can be any number between 12 to 48 indicating main output voltage, "YY" can be SF or blank indicating Single Fuse), may also be provided with additional suffixes "-S", "-C", "-L", and/or "A"
Ratings:	Input: 100-240Vac, 50/60Hz, 3.1A Max; Output: See Model Differences & Miscellaneous Enclosure for details

Testing procedure and testing location:		
[ ] CB Testing Laboratory:		
Testing location/ address:	UL Camas 2600 N.W. Lake Road, Camas, WA, 98607, USA	
[ ] Associated CB Testing Laboratory:		
Testing location/ address:		
Tested by (name + signature):	Bernadette Matsuoka	Bernadette Matsuoka
Approved by (name + signature):	Melissa DeGuia	melissa j. d
[ ] Testing procedure: TMP/CTF Stage 1:		
Testing location/ address:		
Tested by (name + signature):		
Approved by (name + signature):		
[ ] Testing procedure: WMT/CTF Stage 2:		
Testing location/ address:		
Tested by (name + signature):		
Witnessed by (name + signature):		
Approved by (name + signature):		
[X] Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address:	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA	
Tested by (name + signature):	RODNEY REYES	Rodney Reyes
Witnessed by (name + signature):		

Approved by (name + signature):	TAC PHAM	
Supervised by (name + signature):	MELISSA DEGUIA	

List of Attachments (including a total number of pages in each attachment): Refer to Appendix A of this report. All attachments are included within this report.
<u>Summary of testing</u>
Tests performed (name of test and test clause): Testing location: *Refer to the Test List in Appendix D of this report if testing was performed as part of this evaluation.*
Summary of compliance with National Differences List of countries addressed: Austria, Korea, Republic of, USA, Canada, United Kingdom, Sweden

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

Refer to the enclosure(s) titled Marking Plate in the Enclosures section in Appendix A of this report for a copy.

GENERAL INFORMATION	
Test item particulars:	
Classification of Installation and Use:	Building-in
Device Type:	Component
Intended Use Statement:	Component power supply intended to provided regulated power to medical equipment
Mode of Operation:	Continuous
Supply Connection:	For building-in
Accessories and detachable parts included:	None
Other Options Include:	None
Testing	
Date of receipt of test item(s) ....:	2014-06-06, 2015-02-25
Dates tests performed ....:	2014-06-13 to 2015-03-25
Possible test case verdicts:	
- test case does not apply to the test object ....:	N/A
- test object does meet the requirement.................................:	Pass (P)
- test object was not evaluated for the requirement .... :	N/E
- test object does not meet the requirement...........................:	Fail (F)
Abbreviations used in the report:	
- normal condition: N.C.	- single fault condition: S.F.C.
- means of Operator protection: MOOP	- means of Patient protection: MOPP
General remarks: "(See Attachment #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. The tests results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory. List of test equipment must be kept on file and available for review. Additional test data and/or information provided in the attachments to this report. Throughout this report a point is used as the decimal separator. The Critical Component Table is located at the end of the Test Tables.	
Manufacturer’s Declaration per sub-clause 4.2.5 of IECEE 02:2012	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ....:	Yes
When differences exist; they shall be identified in the General product information section.	

Name and address of factory (ies) ....:	XP Power Inc 990 Benecia Ave Sunnyvale CA 94085-2804 USA XP POWER (VIETNAM) CO LTD LOT D - 4Q - CN MY PHUOC 3 INDUSTRIAL PARK BEN CAT DISTRICT BINH DUONG VIETNAM XP POWER (KUNSHAN) LTD 230 BIN JIANG NAN RD ZHANGPU TOWN KUNSHAN JIANGSU, 215321 CHINA

GENERAL PRODUCT INFORMATION:

Report Summary

All applicable tests according to the referenced standard(s) have been carried out.

Refer to the Report Modifications page for any modifications made to this report.

Product Description

The product is a component AC-DC power supply for building-in, open frame type provided with a metal chassis, incorporating primary and SELV components.

Model Differences

All models in the Model CHD250PSXXYY Series are identical with exception to the Mains Transformer (T1) and minor secondary components that allow for different output voltage ratings. See below for Model Ratings at 50°C.

Output Ratings:

CHD250PS12: 10.1Vdc to 13.5Vdc, 20.8A Max., 250 W Max.

CHD250PS15: 13.6Vdc to 17Vdc, 16.7A Max. 250 W Max.

CHD250PS18: 17.1Vdc to 21Vdc, 13.9A Max. 250 W Max.

CHD250PS24: 21.1Vdc to 26Vdc, 10.4A Max. 250 W Max.

CHD250PS28: 26.1Vdc to 31Vdc, 8.93A Max. 250 W Max.

CHD250PS33: 31.1Vdc to 33Vdc, 7.58A Max. 250 W Max.

CHD250PS36: 33.1Vdc to 42Vdc, 6.94A Max. 250 W Max.

CHD250PS48: 42.1Vdc to 54Vdc, 5.2A Max. 250 W Max.

See Miscellaneous enclosure Power Output Table for additional information regarding power output and the various configurations.

Suffix "SF" indicates single fuse provided in the line side of the primary.

Units provided with suffix "-C" provided with cover.

Units provided with suffix "-S" provided with screw terminal.

Units provided with suffix "-L" provided with input leads.

Units provided with suffix "-A" provided with 5V Stand-by output rated 5Vdc, 1A.

Additional Information

Marking label is representative of all models.

Licenses older than 3 years to be provided by the manufacturer upon request.

The required clearance values have been assessed for suitability up to 5000 m elevation

The testing was conducted at XP POWER LLC, 1241 E DYER RD, SUITE 150, SANTA ANA, CA 92705, USA. The client moved to 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280 in December 2014 and has been re-audited as an SMT at this location.

Technical Considerations

- The product was investigated to the following additional standards: ANSI/AAMI ES60601-1:2005/(R)2012, CSA CAN/CSA-C22.2 NO. 60601-1:14, EN 60601-1:2006/A1:2013/A12:2014
- The following additional investigations were conducted: None
- The product was not investigated to the following standards or clauses: Electromagnetic Compatibility (IEC 60601-1-2), Clause 14, Programmable Electronic Systems, Biocompatibility (ISO 10993-1)
- The following accessories were investigated for use with the product: None
- Scope of Power Supply evaluation defers the following clauses to the be determined as part of the end product: Clause 7.5 (Safety Signs), Clause 7.9 (Accompanying Documents), Clause 9 (ME Hazard), Clause 10 Radiation), Clause 14 (PEMS), Clause 16 (ME Systems)
- Scope of Power Supply evaluation excludes the following: Patient applied parts clauses: 4.6, 7.2.10, 8.3, 8.5.2, 8.5.5, 8.7.4.7-8.7.4.9, 8.9.1.15; Battery related clauses: 7.3.3, 15.4.3; Hand Control related clauses: 8.10.4; Oxygen related clauses: 11.2.2, Fluids related clauses: 11.6.2 – 11.6.4, Sterilization clause: 11.6.7, Biocompatibility Clause: 11.7 (ISO 10993), Motor related clauses: 13.2.13.3, 13.4, Heating Elements related clause: 13.2
- The product is evaluated only to the following hazards: Casualty, Fire, Shock
- The degree of protection against harmful ingress of water is: Ordinary
- Software is relied upon for meeting safety requirements related to mechanical, fire and shock: No
- The power supply was evaluated for use in 50°C ambient at Full Rated Output and see Enclosure Miscellaneous for additional ratings and various configurations

Engineering Conditions of Acceptability

When installed in an end-product, consideration must be given to the following:

The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Secondary: 292 Vrms, 478 Vpk, Primary-Earthed Dead Metal: 240 Vrms, 420 Vpk and for Models CHD250PSXXYY, where XX is 5 to 36, Secondary to Ground at 250Vrms, 354Vpk

The power supply terminals and/or connectors are: Not investigated for field wiring

The maximum investigated branch circuit rating is: 20A

The investigated Pollution Degree is: 2

Proper bonding to the end-product main protective earthing termination is: Required

An investigation of the protective bonding terminals has: Not been conducted

The following input terminals/connectors must be connected to the end-product supply neutral: Input

Connector (CON1) N terminal.

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): T1, T2, T3, T1-Standby (Class F, 155°C)

The following end-product enclosures are required: Mechanical, Fire, Electrical

Suitable disconnect device is to be provided in the end system

Temperature, Leakage and Dielectric Strength testing shall be considered in the end system

Printed Wiring Board rated 130°C.

Heatsinks are floating and considered live. They should not be accessible in the end-product

Heating test was not conducted on unit with input/output leads. If unit is provided with input and/or output leads, then temperature on leads must be measured and cannot exceed 105°C

These components have been judged on the basis of the required spacings in the ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10 +A1:2012) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance), CAN/CSA-C22.2 No. 60601-1 (2008) + CSA C22.2 No. 60601-1:2014 (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance), which covers the end-use product for which the component was designed, IEC 60601-1, Edition 3.1, EN 60601-1:2006/A1:2013/A12:2014

Clearance spacing evaluated for 5000 m altitude. Additional consideration maybe necessary in the end-use product

Units provided with additional suffix “SF”, provided with only one fuse. The need for additional fusing shall be determined as part of the end product

The power supplies were evaluated as having 2 MOPP between primary-to-secondary for 292Vrms, 478Vpk, and 1 MOPP between primary-to-ground for 240Vac and 420Vpk. Models CHD250PSXX-YY where XX is 12 to 36 only were also evaluated for 2 MOPP between secondary to ground for working voltage of 42Vdc and 1 MOPP for a working voltage of 250Vrms between secondary and earth for BF output considerations.

Overcurrent releases of adequate breaking capacity must be employed in the end product

The legibility and durability of Marking Test shall be conducted as part of the end product investigation.

Insulation Diagram - (01) Insulation Diagram

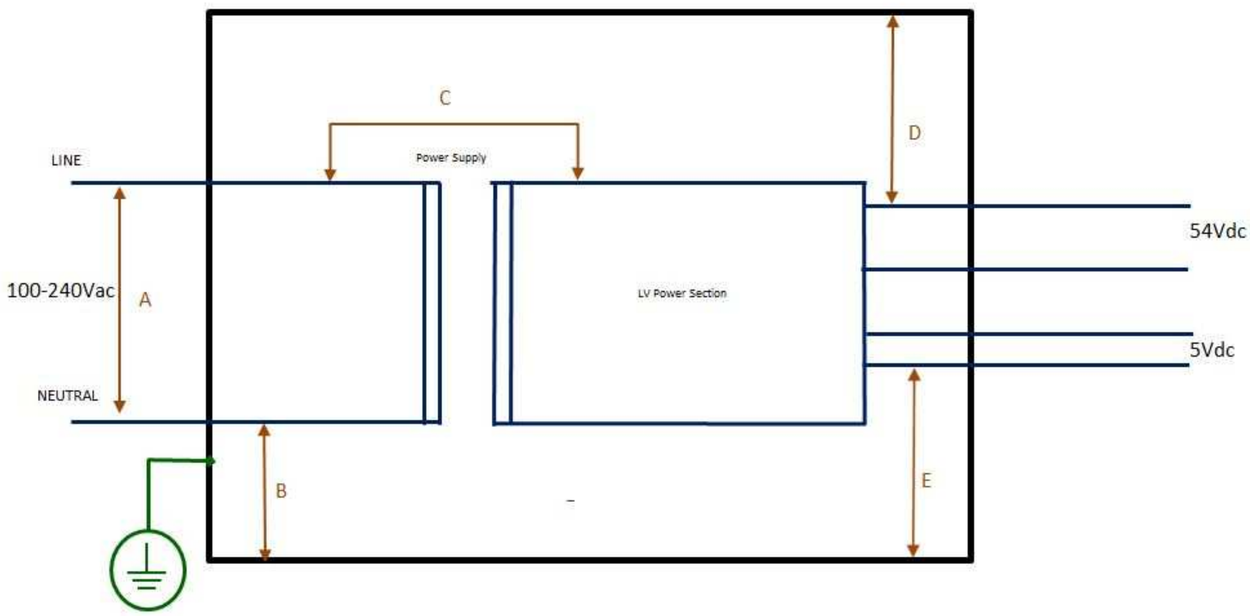

TABLE: INSULATION DIAGRAM										Pass
Pollution Degree:				**2**						-
Overvoltage category:				**II**						-
Altitude:				**5000**						-
Additional details on parts considered as applied parts:				**[X] None [ ] Areas: ___ (See Clause 4.6 for details)**						-
Area	**Number and type of Means of Protection: MOOP, MOPP**	**CTI**	**Working Voltage V_{rms}**	**Working Voltage V_{pk}**	**Required creepage (mm)**	**Required clearance (mm)**	**Measured creepage (mm)**	**Measured clearance (mm)**		**Remarks**
A	MOOP (1)	IIIb	240	339	2.96	2.96	3	3		PWB trace at Input Connector
B	MOPP (1)	IIIb	240	420	4	3.225	4	4		AC line traces to earth traces*
C	MOPP (2)	IIIb	292	478	9.2	9.03	9.2	9.2		PWB across T1
C	MOPP (2)	IIIb	240	324	7.9	6.45	10	10		T3 Pin 1 to 4
C	MOPP (2)	IIIb	240	324	7.9	6.45	8	8		Across the optoisolator
D	MOPP (1)	IIIb	250	354	4	3.2	4	4		From secondary to Ground on PWB for Models CHD250PSXX-YY where XX is 12 to 36 only

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D	MOPP (2)	IIIb		42	4	2.6	4	4	From secondary to Ground on PWB for Models CHD250PSXX-YY where XX is 12 to 36 only
E	MOPP (2)	IIIb		5	3.4	2.1	4	4	From CON4 to Ground on PWB
E	MOPP (1)	IIIb	250	354	4	3.2	4	4	From CON4 to Ground on PWB

Supplementary Information: Refer to Appendix A for the Insulation Diagram.

*Working voltage derived from Test Report Reference E139109-A144-CB-1
A measured value must be provided in the value columns for the device under evaluation. The symbol > (greater than sign) must not be used. Switch-mode power supplies must be re-evaluated in the device under evaluation therefore N/A must not be used with a generic statement that the component is certified.Insulation diagram is a graphical representation of equipment insulation barriers, protective impedance and protective earthing. If feasible, use the following conventions to generate the diagram:

- All isolation barriers are identified by letters between separate parts of diagram, for example separate transformer windings, optocouplers, wire insulation, creepage and clearance distances.

- Parts connected to earth with large dots are protectively earthed. Other connections to earth are functional

- Applied parts are extended beyond the equipment enclosure and terminated with an arrow.

- Parts accessible to the operator only are extended outside of the enclosure, but are not terminated with an arrow.

For Model CHD250PS48, items D & E are operational insulation

4	GENERAL REQUIREMENTS		Pass
4.1	Requirements of this standard applied in NORMAL USE and reasonably foreseeable misuse		Pass
4.2	RISK MANAGEMENT PROCESS FOR ME EQUIPMENT OR ME SYSTEMS		Pass
4.2.2	General requirement for RISK MANAGEMENT - PROCESS complies with ISO14971 (2007):	See Appended RM Results Table 4.2.2.	Pass
4.2.3	Evaluating RISK		Pass
4.2.3.1	a) Compliance with the standard reduces residual risk to an acceptable level		Pass
	b) Manufacturer has defined risk acceptability criteria in the RISK MANAGEMENT PLAN:	RISK MANAGEMENT PLAN Document:10018357 Rev A	Pass
	c) When no specific technical requirements provided manufacturer has determined HAZARDS or HAZARDOUS SITUATIONS exists.		Pass
	- HAZARDS or HAZARDOUS SITUATIONS have been evaluated using the RISK MANAGEMENT PROCESS.		Pass
4.2.3.2	MANUFACTURER has addressed HAZARDS or HAZARDOUS SITUATIONS not specifically addressed in the IEC 60601-1 series.		Pass
4.3	Performance of clinical functions necessary to achieve INTENDED USE or that could affect the safety of the ME EQUIPMENT or ME SYSTEM were identified during RISK ANALYSIS.	See Document No: 10018357 Rev A	Pass
	- Performance limits were identified in both NORMAL CONDITION and SINGLE FAULT CONDITION.		Pass
	- Loss or degradation of performance beyond the limits specified by the MANUFACTURER were evaluated		Pass
	- Functions with unacceptable risks are identified as ESSENTIAL PERFORMANCE:	See Appended Table 4.3	Pass
	- RISK CONTROL measures implemented		Pass
	- Methods used to verify the effectiveness of RISK CONTROL measures implemented		Pass
4.4	EXPECTED SERVICE LIFE stated in RISK MANAGEMENT FILE:	600khours; see RM Doc No. 10018357 Rev A	Pass
4.5	Alternative RISK CONTROL methods utilized:		N/A
	RESIDUAL RISK resulting from the alternative RISK CONTROL measures or tests is acceptable and comparable to RESIDUAL RISK resulting from application of this standard: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Alternative means based scientific data or clinical opinion or comparative studies:		N/A
4.6	RISK MANAGEMENT PROCESS identifies parts that can come into contact with PATIENT but not defined as APPLIED PARTS, subjected to the requirements for APPLIED PARTS, except for Clause 7.2.10:	Component power supply intended for building-in, to be determined as part of end product	N/A
	MANUFACTURER assesses the risk of accessible parts coming into contact with the patient: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	Assessment identified the APPLIED PART TYPE requirements:		N/A
4.7	ME EQUIPMENT remained SINGLE FAULT SAFE, or the RISK remained acceptable as determined by Clause 4.2:	See appended table 13.2	Pass
	MANUFACTURER RISK ANALYSIS was used to determine failures to be tested: (ISO 14971 Cl. 4.2-4.4)	RISK ANALYSIS reference: 10018357 Rev A, Single Fault Condition (4.7) (ISO 14971 Cl.4.2 to 4.2)	Pass
	Failure of any one component at a time that could result in a HAZARDOUS SITUATION, including those in 13.1, simulated physically or theoretically :	See appended Table 13.2 for simulated physical test	Pass
4.8	All components and wiring whose failure could result in a HAZARDOUS SITUATION used according to their applicable ratings, unless specified:		Pass
	Components and wiring exception in the standard or by RISK MANAGEMENT PROCESS		N/A
	RISK MANAGEMENT PROCESS assesses components to identify components where the failure results in a HAZARDOUS SITUATION for components used outside their ratings: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	MANUFACTURER identified components where the failure results in a HAZARDOUS SITUATION:		N/A
	Components determined to be acceptable where used as a MEANS OF PROTECTION:		N/A
	Reliability of components used as MEANS OF PROTECTION assessed for conditions of use in ME EQUIPMENT, and they complied with one of the following		Pass
	a) Applicable safety requirements of a relevant IEC or ISO standard	See appended table 8.10	Pass

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	b) Requirements of this standard applied in the absence of a relevant IEC or ISO standard		Pass
4.9	A COMPONENT WITH HIGH-INTEGRITY CHARACTERISTICS provided and selected appropriately:	No such parts	N/A
	RISK MANAGEMENT FILE includes an assessment to determine if the failure of components results in unacceptable RISK: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	Components identified and required to be COMPONENTS WITH HIGH INTEGRITY CHARACTERISTIC:		N/A
4.10	Power supply		Pass
4.10.1	ME EQUIPMENT is suitable for connection to indicated power source (select applicable):	Component, to be determined as part of the end product evaluation. Power supply is rated 100-240 V ac	N/A
4.10.2	Maximum rated voltage for ME EQUIPMENT intended to be connected to SUPPLY MAINS:		Pass
	- 250 V for HAND-HELD ME EQUIPMENT (V):		N/A
	– 250 V d.c. or single-phase a.c., or 500 V poly-phase a.c. for ME EQUIPMENT and ME SYSTEMS with a RATED input ≤ 4 kVA (V):		Pass
	– 500 V for all other ME EQUIPMENT and ME SYSTEMS		N/A
4.11	Power input		Pass
	Steady-state measured input of ME EQUIPMENT or ME SYSTEM at RATED voltage or voltage range and at operating settings indicated in instructions for use didn't exceed marked rating by more than 10%:	See appended Table 4.11	Pass
5	GENERAL REQUIREMENTS FOR TESTING ME EQUIPMENT		Pass
5.1	Test not performed when analysis indicated condition being tested was adequately evaluated by other tests or methods:		N/A
	RISK MANAGEMENT FILE identifies combinations of simultaneous independent faults that could result in a HAZARDOUS SITUATION. (ISO 14971 Cl. 4.2-4.4)		N/A
5.3	Tests conducted within the environmental conditions specified in technical description		Pass
	Temperature (ºC), Relative Humidity (%):	25degC, 50degC and 70degC, 30-75% RH	-

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	Atmospheric Pressure (kPa):	54-106	-
5.5	a) Supply voltage during tests was the least favourable of the voltages specified in 4.10.2 or voltages marked on ME EQUIPMENT (V):	Rated: 100-240 Vac; Tested: 90 Vac and 264 Vac	Pass
	b) ME EQUIPMENT marked with a RATED frequency range tested at the least favourable frequency within the range (Hz):	Rated: 50-60 Hz, Tested: 50 Hz and 60 Hz	Pass
	c) ME EQUIPMENT with more than one RATED voltage, both a.c./ d.c. or both external power and INTERNAL ELECTRICAL POWER SOURCE tested in conditions (see 5.4) related to the least favourable voltage, nature of supply, and type of current:	Tested at 90 Vac and 264 Vac	Pass
	d) ME EQUIPMENT intended for only d.c. supply connection tested with d.c. and influence of polarity considered:		N/A
	e)ME EQUIPMENT tested with alternative ACCESSORIES and components specified in ACCOMPANYING DOCUMENTS to result in the least favourable conditions:		N/A
	f) ME EQUIPMENT connected to a separate power supply as specified in instructions for use		N/A
5.7	ME EQUIPMENT or parts thereof affected by climatic conditions were set up completely, or partially, with covers detached and subjected to a humidity preconditioning prior to tests of Clauses 8.7.4 and 8.8.3:		Pass
	ME EQUIPMENT heated to a temperature between T and T + 4°C for at least 4 h and placed in a humidity chamber and ambient within 2 °C of T in range of +20°C to +32°C for indicated time	T =40°C Time: 120h	-
5.9	Determination of APPLIED PARTS and ACCESSIBLE PARTS		N/A
5.9.1	APPLIED PARTS identified by inspection and reference to ACCOMPANYING DOCUMENTS:10018357 Rev A	Component for building-in; to be evaluated in end product	N/A
5.9.2	ACCESSIBLE PARTS		N/A
5.9.2.1	Accessibility determined using standard test finger of Fig. 6		N/A
5.9.2.2	Test hook of Fig. 7 inserted in all openings of ME EQUIPMENT and pulled with a force of 20 N for 10 s		N/A
5.9.2.3	Conductive parts of actuating mechanisms of electrical controls accessible after removal of handles, knobs, levers and the like regarded as ACCESSIBLE PARTS:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Conductive parts of actuating mechanisms not considered ACCESSIBLE PARTS when removal of handles, knobs, required use of a TOOL:		N/A
6	CLASSIFICATION OF ME EQUIPMENT AND ME SYSTEMS		Pass
6.2	CLASS I ME EQUIPMENT, externally powered	Component, to be also determined in end-product evaluation	Pass
	CLASS II ME EQUIPMENT, externally powered		N/A
	INTERNALLY POWERED ME EQUIPMENT		N/A
	EQUIPMENT with means of connection to a SUPPLY MAINS complied with CLASS I or CLASS II ME EQUIPMENT requirements when so connected, and when not connected to SUPPLY MAINS with INTERNALLY POWERED ME EQUIPMENT requirements		N/A
	TYPE B APPLIED PART		N/A
	TYPE BF APPLIED PART		N/A
	TYPE CF APPLIED PART		N/A
	DEFIBRILLATION-PROOF APPLIED PARTS		N/A
6.3	ENCLOSURES classified according to degree of protection against ingress of water and particulate matter as per IEC 60529:	Power Supply not evaluated for protection against ingress of water and particulate matter	N/A
6.4	ME EQUIPMENT or its parts intended to be sterilized classified according to method(s) of sterilization in instructions for use:		N/A
6.5	ME EQUIPMENT and ME SYSTEMS intended for use in an OXYGEN RICH ENVIRONMENT classified for such use and complied with 11.2.2		N/A
6.6	CONTINUOUS or Non-CONTINUOUS OPERATION:	Intended for Continuous operation	Pass
7	ME EQUIPMENT IDENTIFICATION, MARKING, AND DOCUMENTS		Pass
7.1.2	Legibility of Markings Test for Markings specified in Clause 7.2-7.6:	Component for building-in; to be evaluated in end product	N/A
7.1.3	Required markings can be removed only with a TOOL or by appreciable force, are durable and remain CLEARLY LEGIBLE during EXPECTED SERVICE LIFE of ME EQUIPMENT in NORMAL USE	Component for building-in; to be evaluated in end product	N/A
7.2	Marking on the outside of ME EQUIPMENT or ME EQUIPMENT parts		Pass
7.2.1	At least markings in 7.2.2, 7.2.5, 7.2.6, 7.2.10, and 7.2.13 were applied when size of EQUIPMENT, its part, an ACCESSORY, or ENCLOSURE did not permit application of all required markings:	See attached copy of Marking Plate	Pass
	Remaining markings fully recorded in ACCOMPANYING DOCUMENTS:	Component only, to be evaluated in end product	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Markings applied to individual packaging when impractical to apply to ME EQUIPMENT		N/A
	Single use item marked:		N/A
7.2.2	ME EQUIPMENT marked with:		Pass
	– the name or trademark and contact information of the MANUFACTURER		Pass
	– a MODEL OR TYPE REFERENCE	See attached copy of Marking Plate	Pass
	– a serial number or lot or batch identifier; and		Pass
	– the date of manufacture or use by date	Provided as part of the serial number	Pass
	Detachable components of the ME EQUIPMENT not marked; misidentification does not present an unacceptable risk, or		N/A
	RISK MANAGEMENT FILE includes an assessment of the RISKS relating to misidentification of all detachable parts: (ISO 14971 Cl. 4.2-4.4, 5, 6.4)		N/A
	Detachable components of the ME EQUIPMENT are marked with the name or trademark of the MANUFACTURER, and		N/A
	– a MODEL OR TYPE REFERENCE		N/A
	Software forming part of a PEMS identified with a unique identifier:		N/A
7.2.3	Symbol 11 on Table D.1 used, optionally, advice to OPERATOR to consult ACCOMPANYING DOCUMENTS	Component, Accompanying Documents to be provided as part of end product	N/A
	Safety sign 10 on Table D.2) used, advising OPERATOR that ACCOMPANYING DOCUMENTS must be consulted		N/A
7.2.4	ACCESSORIES marked with name or trademark and contact information of their MANUFACTURER, and:	No such parts	N/A
	- with a MODEL or TYPE REFERENCE		N/A
	– a serial number or lot or batch identifier		N/A
	– the date of manufacture or use by date		N/A
	Markings applied to individual packaging when not practical to apply to ACCESSORIES		N/A
7.2.5	ME EQUIPMENT and ME SYSTEM intended to receive power from other equipment, provided with one of the following	Component, to be determined in end-product evaluation	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- the name or trademark of the manufacturer of the other electrical equipment and type reference marked adjacent to the relevant connection point; or		N/A
	– Table D.2, safety sign No. 10 adjacent to the relevant connection point and listing of the required details in the instructions for use; or		N/A
	– Special connector style used that is not commonly available on the market and listing of the required details in the instructions for use.		N/A
7.2.6	Connection to the Supply Mains		Pass
	Marking appearing on the outside of part containing SUPPLY MAINS connection and, adjacent to connection point	(see attached marking plate)	Pass
	For PERMANENTLY INSTALLED ME EQUIPMENT, NOMINAL supply voltage or range marked inside or outside of ME EQUIPMENT		N/A
	– RATED supply voltage(s) or RATED voltage range(s) with a hyphen (-) between minimum and maximum voltages (V, V-V):	100-240vac	Pass
	Multiple RATED supply voltages or multiple RATED supply voltage ranges are separated by (V/V):		N/A
	– Nature of supply and type of current :		Pass
	Symbols 1-5, Table D.1 (used for same parameters:	(see attached marking plate)	Pass
	– RATED supply frequency or RATED frequency range in hertz:		Pass
	– Symbol 9 of Table D.1 used for CLASS II ME EQUIPMENT:		N/A
7.2.7	RATED input in amps or volt-amps, (A, VA):	(see attached marking plate)	Pass
	RATED input in amps or volt-amps, or in watts when power factor exceeds 0.9 (A, VA, W):	(see attached marking plate)	Pass
	RATED input for one or more RATED voltage ranges provided for upper and lower limits of the range or ranges when the range(s) is/are greater than ± 10 % of the mean value of specified range (A, VA,W):		N/A
	Input at mean value of range marked when range limits do not differ by more than 10 % from mean value (A, VA, W):		N/A
	Marking includes long-time and most relevant momentary volt-ampere ratings when provided, each plainly identified and indicated in ACCOMPANYING DOCUMENTS (VA):		N/A
	Marked input of ME EQUIPMENT provided with means for connection of supply conductors of other electrical equipment includes RATED and marked output of such means (A, VA, W):		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

7.2.8	Output connectors		Pass
7.2.8.2	Output connectors are marked, except for MULTIPLE SOCKET-OUTLETS or connectors intended for specified ACCESSORIES or equipment	Output rating provided for DC output connector. Component for building-in, also to be determined as part of the end product	Pass
	Rated Voltage (V), Rated Current (A):	(see attached marking plate & model differences)	-
	Rated Power (W), Output Frequency (Hz):	(see attached marking plate & model differences)	-
7.2.9	ME EQUIPMENT or its parts marked with the IP environmental Code per IEC 60529 according to classification in 6.3 (Table D.3, Code 2), marking optional for ME EQUIPMENT or parts rated IPX0.:		N/A
7.2.10	Degrees of protection against electric shock as classified in 6.2 for all APPLIED PARTS marked with relevant symbols :	No such parts	N/A
	TYPE B APPLIED PARTS with symbol 19 of Table D.1		N/A
	TYPE BF APPLIED PARTS with symbol 20 of Table D.1:		N/A
	TYPE CF APPLIED PARTS with symbol 21 of Table D.1:		N/A
	DEFIBRILLATION-PROOF APPLIED PARTS marked with symbols 25-27 of Table D.1:		N/A
	Proper symbol marked adjacent to or on connector for APPLIED PART:		N/A
	Safety sign 2 of Table D.2 placed near relevant outlet:		N/A
	An explanation indicating protection of ME EQUIPMENT against effects of discharge of a cardiac defibrillator depends on use of proper cables included in instructions for use:		N/A
7.2.11	ME EQUIPMENT suitable for CONTINUOUS OPERATION		Pass
	DUTY CYCLE for ME EQUIPMENT intended for non-CONTINUOUS OPERATION appropriately marked to provide maximum “on” and “off” time:		N/A
7.2.12	Type and full rating of a fuse marked adjacent to ACCESSIBLE fuse-holder	Component only; to be evaluated in end product	N/A
	Fuse type:		-
	Voltage (V) and Current (A) rating:		-
	Operating speed (s) and Breaking capacity:		-
7.2.13	Physiological effects – safety sign and warning statements:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Nature of HAZARD and precautions for avoiding or minimizing the associated RISK described in instructions for use: (ISO 14971 Cl. 4.2-4.4, 5, 6.3)		N/A
7.2.14	HIGH VOLTAGE TERMINAL DEVICES on the outside of ME EQUIPMENT accessible without the use of a TOOL marked with symbol 24 of Table D.1		N/A
7.2.15	Requirements for cooling provisions marked:		N/A
7.2.17	Packaging marked with special handling instructions for transport and/or storage:	Component for building-in; to be evaluated in end product	N/A
	Permissible environmental conditions marked on outside of packaging:		N/A
	Packaging marked with a suitable safety sign indicating premature unpacking of ME EQUIPMENT could result in an unacceptable RISK:		N/A
	RISK MANAGEMENT FILE includes the assessment to determine premature unpacking of ME EQUIPMENT or its parts could result in an unacceptable RISK.: (ISO 14971 Cl. 4.2-4.4, 5, 6.3-6.4)		N/A
	Packaging of sterile ME EQUIPMENT or ACCESSORIES marked sterile and indicates the methods of sterilization		N/A
7.2.18	RATED maximum supply pressure from an external source marked on ME EQUIPMENT adjacent to each input connector, and :		N/A
	- the RATED flow rate also marked		N/A
7.2.19	Symbol 7 of Table D.1 marked on FUNCTIONAL EARTH TERMINAL:		N/A
7.2.20	Removable protective means marked to indicate the necessity for replacement when the function is no longer needed:		N/A
7.2.21	MOBILE ME EQUIPMENT marked with its mass including its SAFE WORKING LOAD in kilograms:		N/A
7.3	Marking on the inside of ME EQUIPMENT or ME EQUIPMENT parts		N/A
7.3.1	Maximum power loading of heating elements or lamp-holders designed for use with heating lamps marked near or in the heater (W):	No such parts	N/A
	A marking referring to ACCOMPANYING DOCUMENTS provided for heating elements or lamp-holders designed for heating lamps that can be changed only by SERVICE PERSONNEL using a TOOL		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.3.2	Symbol 24 of Table D.1, or safety sign No.3 of Table D.2 used to mark presence of HIGH VOLTAGE parts:		N/A
7.3.3	Type of battery and mode of insertion marked:	No batteries	N/A
	An identifying marking provided referring to instructions in ACCOMPANYING DOCUMENTS for batteries intended to be changed only by SERVICE PERSONNEL using a TOOL:		N/A
	A warning provided indicating replacement of lithium batteries or fuel cells when incorrect replacement would result in an unacceptable RISK:		N/A
	RISK MANAGEMENT FILE includes an assessment to determine the replacement of lithium batteries or fuel cells leads to an unacceptable RISK if replaced incorrectly: (ISO 14971 Cl. 4.2-4.4, 5, 6.3)		N/A
	ACCOMPANYING DOCUMENTS contain a warning indicating the replacement of lithium batteries or fuel cells by inadequately trained personnel could result in a HAZARD:		N/A
7.3.4	Fuses, replaceable THERMAL CUT-OUTS and OVER-CURRENT RELEASES, accessible by use of a TOOL Identified :	Fuses are not replaceable	N/A
	Voltage (V) and Current (A) rating:		-
	Operating speed(s), size & breaking capacity:		-
7.3.5	PROTECTIVE EARTH TERMINAL marked with symbol 6 of Table D.1	Component for building-in, to be determined as part of the end product	N/A
	Markings on or adjacent to PROTECTIVE EARTH TERMINALS not applied to parts requiring removal to make the connection, and remained visible after connection made		N/A
7.3.6	Symbol 7 of Table D.1 marked on FUNCTIONAL EARTH TERMINALS		N/A
7.3.7	Terminals for supply conductors marked adjacent to terminals:		N/A
	Terminals for supply connections are not marked, the RISK MANAGEMENT FILE includes an assessment of the RISKS resulting from misconnections: (ISO 14971 Cl. 4.3)		N/A
	Terminal markings included in ACCOMPANYING DOCUMENTS when ME EQUIPMENT too small to accommodate markings		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Terminals exclusively for neutral supply conductor in PERMANENTLY INSTALLED ME EQUIPMENT marked with Code 1 of Table D.3		N/A
	Marking for connection to a 3-phase supply, complies with IEC 60445		N/A
	Markings on or adjacent to electrical connection points not applied to parts requiring removal to make connection, and remained visible after connection made		N/A
7.3.8	“For supply connections, use wiring materials suitable for at least X °C” or equivalent, marked at the point of supply connections		N/A
	Statement not applied to parts requiring removal to make the connection, and CLEARLY LEGIBLE after connections made		N/A
7.4	Marking of controls and instruments		N/A
7.4.1	The “on” & “off” positions of switch to control power to ME EQUIPMENT or its parts, including mains switch, marked with symbols 12 and 13 of Table D.1 or	No such parts	N/A
	– indicated by an adjacent indicator light, or		N/A
	– indicated by other unambiguous means		N/A
	The “on/off” positions of push button switch with bi-stable positions marked with symbol 14 of Table D.1, and		N/A
	– status indicated by adjacent indicator light		N/A
	– status indicated by other unambiguous means		N/A
	The “on/off” positions of push button switch with momentary on position marked with symbol 15 of Table D.1 or		N/A
	– status indicated by adjacent indicator light		N/A
	– status indicated by other unambiguous means		N/A
7.4.2	Different positions of control devices/switches indicated by figures, letters, or other visual means		N/A
	RISK MANAGEMENT FILE identifies controls where a change in setting during NORMAL USE results in an unacceptable RISK: (ISO 14971 Cl. 4.2-4.4, 5, 6.2, 6.3)		N/A
	Controls provided with an associated indicating device when change of setting of a control could result in an unacceptable RISK to PATIENT in NORMAL USE:		N/A
	– or an indication of direction in which magnitude of the function changes		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Control device or switch that brings the ME EQUIPMENT into the "stand-by" condition marked with symbol IEC 60417-5009		N/A
7.4.3	Numeric indications of parameters on ME EQUIPMENT expressed in SI units according to ISO 80000-1 except the base quantities listed in Table 1 expressed in the indicated units	No such markings	N/A
	ISO 80000-1 applied for application of SI units, their multiples, and certain other units		N/A
	All Markings in Sub-clause 7.4 complied with tests and criteria of 7.1.2 and 7.1.3:		N/A
7.5	Safety signs		N/A
	Safety sign with established meaning used	Component only, to be determined in the end product	N/A
	RISK MANAGEMENT PROCESS identifies markings used to convey a warning, prohibition or mandatory action that mitigate a RISK not obvious to the OPERATOR: (ISO 14971 Cl. 4.2-4.4, 5, 6.3)		N/A
	Affirmative statement together with safety sign placed in instructions for use if insufficient space on ME EQUIPMENT		N/A
	Specified colours in ISO 3864-1 used for safety signs:		N/A
	Safety notices include appropriate precautions or instructions on how to reduce RISK(S)		N/A
	Safety signs including any supplementary text or symbols described in instructions for use		N/A
	- and in a language acceptable to the intended OPERATOR		N/A
7.6	Symbols		N/A
7.6.1	Meanings of symbols used for marking described in instructions for use:	Component, Accompanying Documents to be provided by the end product	N/A
7.6.3	Symbols used for controls and performance conform to the IEC or ISO publication where symbols are defined, as applicable		N/A
7.7	Colours of the insulation of conductors		N/A
7.7.1	PROTECTIVE EARTH CONDUCTOR identified by green and yellow insulation	Component only; to be evaluated in end product	N/A
7.7.2	Insulation on conductors inside ME EQUIPMENT forming PROTECTIVE EARTH CONNECTIONS identified by green and yellow at least at terminations		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.7.3	Green and yellow insulation identify only following conductors:	Component only, to be determined in the end product	N/A
	– PROTECTIVE EARTH CONDUCTORS		N/A
	– conductors specified in 7.7.2		N/A
	– POTENTIAL EQUALIZATION CONDUCTORS		N/A
	– FUNCTIONAL EARTH CONDUCTORS		N/A
7.7.4	Neutral conductors of POWER SUPPLY CORDS are “light blue”		N/A
7.7.5	Colours of conductors in POWER SUPPLY CORDS in accordance with IEC 60227-1 or IEC 60245-1		N/A
7.8	Indicator lights and controls		N/A
7.8.1	Red indicator lights used only for Warning	No such parts	N/A
	Yellow indicator lights used only for Caution		N/A
	Green indicator lights used only for Ready for use		N/A
	Other colours: Meaning other than red, yellow, or green (colour, meaning):		N/A
7.8.2	Red used only for emergency control		N/A
7.9	ACCOMPANYING DOCUMENTS		N/A
7.9.1	ME EQUIPMENT accompanied by documents containing instructions for use, and a technical description	Component, to be determined in end-product evaluation	N/A
	ACCOMPANYING DOCUMENTS identify ME EQUIPMENT by the following, as applicable:		N/A
	– Name or trade-name of MANUFACTURER and contact information for the RESPONSIBLE ORGANIZATION can be referred to:		N/A
	– MODEL or TYPE REFERENCE:		N/A
	When ACCOMPANYING DOCUMENTS provided electronically, USABILITY ENGINEERING PROCESS includes instructions as to what is required in hard copy or as markings on ME EQUIPMENT		N/A
	ACCOMPANYING DOCUMENTS specify special skills, training, and knowledge required of OPERATOR or RESPONSIBLE ORGANIZATION and environmental restrictions on locations of use		N/A
	ACCOMPANYING DOCUMENTS written at a level consistent with education, training, and other needs of individuals for whom they are intended		N/A
7.9.2	Instructions for use include the required information		N/A
7.9.2.1	– use of ME EQUIPMENT as intended by the MANUFACTURER:	Component, to be determined in end-product evaluation	N/A
	– frequently used functions,		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– known contraindication(s) to use of ME EQUIPMENT		N/A
	- parts of the ME EQUIPMENT that are not serviced or maintained while in use with the patient		N/A
	– name or trademark and address of the MANUFACTURER		N/A
	– MODEL OR TYPE REFERENCE		N/A
	Instruction for use included the following when the PATIENT is an intended OPERATOR:		N/A
	– the PATIENT is an intended OPERATOR		N/A
	– warning against servicing and maintenance while the ME EQUIPMENT is in use		N/A
	- functions the PATIENT can safely use and, where applicable, which functions the PATIENT cannot safely use; and		N/A
	–maintenance the PATIENT can perform		N/A
	Classifications as in Clause 6, all markings per Clause 7.2, and explanation of safety signs and symbols marked on ME EQUIPMENT		N/A
	Instructions for use are in a language acceptable to the intended operator		N/A
7.9.2.2	Instructions for use include all warning and safety notices	Component, to be determined in end-product evaluation	N/A
	Warning statement for CLASS I ME EQUIPMENT included		N/A
	Warnings regarding significant RISKS of reciprocal interference posed by ME EQUIPMENT during specific investigations or treatments		N/A
	Information on potential electromagnetic or other interference and advice on how to avoid or minimize such interference		N/A
	Warning statement for ME EQUIPMENT supplied with an integral MULTIPLE SOCKET-OUTLET provided		N/A
	The RESPONSIBLE ORGANIZATION is referred to this standard for the requirements applicable to ME SYSTEMS		N/A
7.9.2.3	Statement on ME EQUIPMENT for connection to a separate power supply provided in instructions		N/A
7.9.2.4	Warning statement for mains- operated ME EQUIPMENT with additional power source not automatically maintained in a fully usable condition indicating the necessity for periodic checking or replacement of power source		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	RISK MANAGEMENT FILE assesses the RISK resulting from leakage of batteries: (ISO 14971 Cl. 4.2-4.4, 5, 6.3)		N/A
	Where the RISK is unacceptable, the IFU includes a warning to remove the battery if the ME EQUIPMENT is not likely to be used for some time:		N/A
	Specifications of replaceable INTERNAL ELECTRICAL POWER SOURCE when provided:		N/A
	Warning indicating ME EQUIPMENT must be connected to an appropriate power source when loss of power source would result in an unacceptable RISK:		N/A
7.9.2.5	Instructions for use include a description of ME EQUIPMENT, its functions, significant physical and performance characteristics together with the expected positions of OPERATOR, PATIENT, or other persons near ME EQUIPMENT in NORMAL USE		N/A
	Information provided on materials and ingredients PATIENT or OPERATOR is exposed to		N/A
	Restrictions specified on other equipment or NETWORK/DATA COUPLINGS, other than those forming part of an ME SYSTEM, to which a SIGNAL INPUT/OUTPUT PART may be connected		N/A
	APPLIED PARTS specified		N/A
7.9.2.6	Information provided indicating where the installation instructions may be found or information on qualified personnel who can perform the installation		N/A
7.9.2.7	Instructions provided indicating not to position ME EQUIPMENT to make it difficult to operate the disconnection device		N/A
7.9.2.8	Necessary information provided for OPERATOR to bring ME EQUIPMENT into operation		N/A
7.9.2.9	Information provided to operate ME EQUIPMENT		N/A
	Meanings of figures, symbols, warning statements, abbreviations and indicator lights described in instructions for use		N/A
7.9.2.10	A list of all system messages, error messages, and fault messages provided with an explanation of messages including important causes and possible action(s) to be taken to resolve the problem indicated by the message		N/A
7.9.2.11	Information provided for the OPERATOR to safely terminate operation of ME EQUIPMENT		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.9.2.12	Information provided on cleaning, disinfection, and sterilization methods, and applicable parameters that can be tolerated by ME EQUIPMENT parts or ACCESSORIES specified		N/A
	Components, ACCESSORIES or ME EQUIPMENT marked for single use, except when required by MANUFACTURER to be cleaned, disinfected, or sterilized prior to use		N/A
7.9.2.13	Instructions provided on preventive inspection, calibration, maintenance and its frequency		N/A
	Information provided for safe performance of routine maintenance necessary to ensure continued safe use of ME EQUIPMENT		N/A
	Parts requiring preventive inspection and maintenance to be performed by SERVICE PERSONNEL identified including periods of application		N/A
	Instructions provided to ensure adequate maintenance of ME EQUIPMENT containing rechargeable batteries to be maintained by anyone other than SERVICE PERSONNEL		N/A
7.9.2.14	A list of ACCESSORIES, detachable parts, and materials for use with ME EQUIPMENT provided		N/A
	Other equipment providing power to ME SYSTEM sufficiently described		N/A
7.9.2.15	Disposal of waste products, residues, etc., and of ME EQUIPMENT and ACCESSORIES at the end of their EXPECTED SERVICE LIFE are identified in the instruction for use:		N/A
7.9.2.16	Instructions for use include information specified in 7.9.3 or identify where it can be found (e.g. in a service manual)		N/A
7.9.2.17	Instruction for use for ME EQUIPMENT emitting radiation for medical purposes, indicate the nature, type, intensity and distribution of this radiation		N/A
7.9.2.18	The instructions for use for ME EQUIPMENT or ACCESSORIES supplied sterile indicate that they have been sterilized and the method of sterilization		N/A
	The instructions for use indicate the necessary instructions in the event of damage to the sterile packaging, and where appropriate, details of the appropriate methods of re-sterilization		N/A
7.9.2.19	The instructions for use contain a unique version identifier:		N/A
7.9.3	Technical description		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.9.3.1	All essential data provided for safe operation, transport, storage, and measures or conditions necessary for installing ME EQUIPMENT, and preparing it for use		N/A
	Technical description separable from instructions for use contains required information, as follows		N/A
	– all applicable classifications in Clause 6, warning and safety notices, and explanation of safety signs marked on ME EQUIPMENT		N/A
	– a brief description of the ME EQUIPMENT, how the ME EQUIPMENT functions and its significant physical and performance characteristics; and		N/A
	a unique version identifier:		N/A
	MANUFACTURER'S optional requirements for minimum qualifications of SERVICE PERSONNEL documented in technical description		N/A
7.9.3.2	The technical description contains the following required information		N/A
	–type and full rating of fuses used in SUPPLY MAINS external to PERMANENTLY INSTALLED ME EQUIPMENT:	Component, to be determined in end-product evaluation	N/A
	– a statement for ME EQUIPMENT with a non-DETACHABLE POWER SUPPLY CORD if POWER SUPPLY CORD is replaceable by SERVICE PERSONNEL, and		N/A
	– instructions for correct replacement of interchangeable or detachable parts specified by MANUFACTURER as replaceable by SERVICE PERSONNEL, and		N/A
	RISK MANAGEMENT FILE includes an assessment to determine if replacement of components results in any unacceptable RISKS: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	– warnings identifying nature of HAZARD when replacement of a component could result in an unacceptable RISK, and when replaceable by SERVICE PERSONNEL all information necessary to safely replace the component		N/A
7.9.3.3	Technical description indicates, MANUFACTURER will provide circuit diagrams, component part lists, descriptions, calibration instructions to assist to SERVICE PERSONNEL in parts repair		N/A
7.9.3.4	Means used to comply with requirements of 8.11.1 clearly identified in technical description		N/A
8	PROTECTION AGAINST ELECTRICAL HAZARDS FROM ME EQUIPMENT		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
8.1	Limits specified in Clause 8.4 not exceeded for ACCESSIBLE PARTS and APPLIED PARTS in NORMAL or SINGLE FAULT CONDITIONS	Component, also to be determined as part of the end product	Pass
	RISK MANAGEMENT FILE identifies conductors and connectors where breaking free results in a HAZARDOUS SITUATION: (ISO 14971 Cl. 4.3)	RMF Reference to specific RISKS: 10018357 Rev A, (8.1b[3]) (ISO 14971 Cl. 4.2 to 5)	Pass
8.2	Requirements related to power sources		N/A
8.2.1	Connection to a separate power source		N/A
	When ME EQUIPMENT specified for connection to a separate power source other than SUPPLY MAINS, separate power source considered as part of ME EQUIPMENT or combination considered as an ME SYSTEM		N/A
	Tests performed with ME EQUIPMENT connected to separate power supply when one specified		N/A
	When a generic separate power supply specified, specification in ACCOMPANYING DOCUMENTS examined		N/A
8.2.2	Connection to an external d.c. power source		N/A
	No HAZARDOUS SITUATION as described in 13.1 developed when a connection with wrong polarity made for ME EQUIPMENT from an external d.c. source		N/A
	ME EQUIPMENT connected with correct polarity maintained BASIC SAFETY and ESSENTIAL PERFORMANCE		N/A
	Protective devices that can be reset by anyone without a TOOL returns to NORMAL CONDITION on reset		N/A
8.3	Classification of APPLIED PARTS		N/A
	a) APPLIED PART specified in ACCOMPANYING DOCUMENTS as suitable for DIRECT CARDIAC APPLICATION is TYPE CF	No applied parts	N/A
	b) An APPLIED PART provided with a PATIENT CONNECTION intended to deliver electrical energy or an electrophysiological signal to or from PATIENT is TYPE BF or CF APPLIED PART		N/A
	c) An APPLIED PART not covered by a) or b) is a TYPE B, BF, or CF		N/A
8.4	Limitation of voltage, current or energy		Pass
8.4.2	ACCESSIBLE PARTS and APPLIED PARTS		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	a) Currents from, to, or between PATIENT CONNECTIONS did not exceed limits for PATIENT LEAKAGE CURRENT & PATIENT AUXILIARY CURRENT:	No applied parts	N/A
	b) LEAKAGE CURRENTS from, to, or between ACCESSIBLE PARTS did not exceed limits for TOUCH CURRENT:	Component only, to be determined in the end product	N/A
	c) Limits specified in b) not applied to parts when probability of a connection to a PATIENT, directly or through body of OPERATOR, is negligible in NORMAL USE, and the OPERATOR is appropriately instructed	Component only, to be determined in the end product	N/A
	Voltage to earth or to other ACCESSIBLE PARTS did not exceed 42.4 V peak a.c. or 60 V d.c. for above parts in NORMAL or single fault condition (V a.c. or d.c.):		N/A
	Energy did not exceed 240 VA for longer than 60 s or stored energy available did not exceed 20 J at a potential of 2 V or more (VA or J):		N/A
	d) Voltage and energy limits specified in c) above also applied to the following:		N/A
	– internal parts touchable by test pin in Fig 8 inserted through an opening in an ENCLOSURE; and		N/A
	– internal parts touchable by a metal test rod with a diameter of 4 mm and a length 100 mm, inserted through any opening on top of ENCLOSURE or through any opening provided for adjustment of pre-set controls by RESPONSIBLE ORGANIZATION in NORMAL USE using a TOOL		N/A
	Test pin or the test rod inserted through relevant openings with minimal force of no more than 1 N		N/A
	Test rod inserted in every possible position through openings provided for adjustment of pre-set controls that can be adjusted in NORMAL USE, with a force of 10 N		N/A
	Test repeated with a TOOL specified in instructions for use		N/A
	Test rod freely and vertically suspended through openings on top of ENCLOSURE		N/A
	e) Devices used to de-energize parts when an ACCESS COVER opened without a TOOL gives access to parts at voltages above levels permitted by this Clause comply with 8.11.1 for mains isolating switches and remain effective in SINGLE FAULT CONDITION		N/A
	A TOOL is required when it is possible to prevent the devices from operating		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.4.3	Worst case voltage between pins of plug and between either supply pin and ENCLOSURE did not exceed 60 V one sec after disconnecting the plug of ME EQUIPMENT or its parts (V):	See appended Table 8.4.3	Pass
	When voltage exceeded 60 V, calculated or measured stored charge didn't exceed 45 µC:	Did not exceed 60Vdc	N/A
8.4.4	Residual voltage of conductive parts of capacitive circuits, having become accessible after ME EQUIPMENT was de-energized after removal of ACCESS COVERS, didn't exceed 60V or calculated stored charge didn't exceed 45µC:	Component for building-in, to be determined as part of the end product	N/A
	A device manually discharging capacitors used when automatic discharging was not possible and ACCESS COVERS could be removed only with aid of a TOOL		N/A
	Capacitor(s) and connected circuitry marked with symbol 24 of Table D.1, and manual discharging device specified in technical description:		N/A
8.5	Separation of parts		Pass
8.5.1	MEANS OF PROTECTION (MOP)		Pass
8.5.1.1	Two MEANS of PROTECTION provided for ME EQUIPMENT to prevent APPLIED and other ACCESSIBLE PARTS from exceeding limits in 8.4	See Insulation Diagram and Table	Pass
	Varnishing, enamelling, oxidation, and similar protective finishes and coatings with sealing compounds re-plasticizing at temperatures expected during operation and sterilization disregarded as MEANS OF PROTECTION		Pass
	Components and wiring forming a MEANS OF PROTECTION comply with 8.10		Pass
8.5.1.2	MEANS OF PATIENT PROTECTION (MOPP)		Pass
	Solid insulation forming a MEANS OF PATIENT PROTECTION complied with dielectric strength test:	See appended Table 8.8.3	Pass
	CREEPAGE and CLEARANCES forming a MEANS OF PATIENT PROTECTION complied with Table 12		Pass
	PROTECTIVE EARTH CONNECTIONS forming a MEANS OF PATIENT PROTECTION complied with Cl. 8.6		N/A
	Y1 or Y2 capacitor complying with standard IEC 60384-14 considered one MEANS OF PATIENT PROTECTION:		N/A
	Single Y1 capacitor used for two MEANS OF PATIENT PROTECTION when the working voltage is less than 42,4 V peak a.c. or 60 V d.c.:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Two capacitors used in series, each RATED for total WORKING VOLTAGE across the pair and have the same NOMINAL capacitance		N/A
	Voltage Total Working (V) and C Nominal (µF):		-
8.5.1.3	MEANS OF OPERATOR PROTECTION (MOOP)		Pass
	Solid insulation forming a MEANS OF OPERATOR PROTECTION complied with:		N/A
	– dielectric strength test:		N/A
	– requirements of IEC 60950-1 for INSULATION CO-ORDINATION		N/A
	CREEPAGE and CLEARANCES forming a MEANS OF OPERATOR PROTECTION complied with:	see insulation diagram and table	Pass
	– limits of Tables 13 to 16 (inclusive); or		Pass
	– requirements of IEC 60950-1 for INSULATION CO-ORDINATION		N/A
	PROTECTIVE EARTH CONNECTIONS forming a MEANS OF OPERATOR PROTECTION complied with Cl. 8.6		N/A
	– or with requirements and tests of IEC 60950-1 for protective earthing:		N/A
	A Y2 (IEC 60384-14) capacitor is considered one MEANS OF OPERATOR PROTECTION:		N/A
	A Y1 (IEC 60384-14) capacitor is considered two MEANS OF OPERATOR PROTECTION:		N/A
	Two capacitors used in series each RATED for total WORKING VOLTAGE across the pair and have the same NOMINAL capacitance		N/A
	Voltage Total Working (V) and C Nominal (µF):		-
	Points and applied parts at which impedances of components, CREEPAGE, CLEARANCES, PROTECTIVE EARTH CONNECTIONS or insulation, prevent ACCESSIBLE PARTS from exceeding limits in 8.4 were examined whether a failure at any of these points is to be regarded as a NORMAL or SINGLE FAULT CONDITION		N/A
	A MEANS OF PROTECTION protecting APPLIED PARTS, or parts identified by 4.6 as parts subject to the same requirements, considered MEANS OF PATIENT PROTECTION:		N/A
	A MEANS OF PROTECTION protecting other parts considered MEANS OF OPERATOR PROTECTION:		N/A
8.5.2	Separation of PATIENT CONNECTIONS		N/A

Clause	Requirement + Test	Result - Remark	Verdict
8.5.2.1	PATIENT CONNECTIONS of F-TYPE APPLIED PART separated from all other parts by equivalent to one MEANS OF PATIENT PROTECTION for a WORKING VOLTAGE equal to the MAX. MAINS VOLTAGE:	No patient connections	N/A
	Separation requirement not applied between multiple functions of a single F-TYPE APPLIED PART		N/A
	PATIENT CONNECTIONS treated as one APPLIED PART in the absence of electrical separation between PATIENT CONNECTIONS of same or another function		N/A
	MANUFACTURER has defined if multiple functions are to be considered as all within one APPLIED PART or as multiple APPLIED PARTS:		N/A
	Classification as TYPE BF, CF, or DEFIBRILLATION-PROOF applied to one entire APPLIED PART		N/A
	LEAKAGE CURRENT tests conducted per 8.7.4:		N/A
	Dielectric strength test conducted per 8.8.3:		N/A
	CREEPAGE and CLEARANCES measured :		N/A
	A protective device connected between PATIENT CONNECTIONS of an F-TYPE APPLIED PART and ENCLOSURE to protect against excessive voltages did not operate below 500 V r.m.s		N/A
8.5.2.2	PATIENT CONNECTIONS of a TYPE B APPLIED PART not PROTECTIVELY EARTHED are separated by one MEANS OF PATIENT PROTECTION from metal ACCESSIBLE PARTS not PROTECTIVELY EARTHED:		N/A
	– except when metal ACCESSIBLE PART is physically close to APPLIED PART and can be regarded as a part of APPLIED PART; and		N/A
	– RISK that metal ACCESSIBLE PART will make contact with a source of voltage or LEAKAGE CURRENT above permitted limits is acceptably low		N/A
	LEAKAGE CURRENT tests conducted per 8.7.4:		N/A
	Dielectric strength test conducted per 8.8.3:		N/A
	Relevant CREEPAGE and CLEARANCES measured		N/A
	RISK MANAGEMENT FILE includes an assessment of the RISK of metal ACCESSIBLE PARTS contacting a source of voltage or LEAKAGE CURRENT above the limits: (ISO 14971 Cl. 4.2-4.4, 5)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.2.3	A connector on a PATIENT lead or PATIENT cable located at the end of the lead or cable remote from PATIENT, with conductive part not separated from all PATIENT CONNECTIONS by one MEANS OF PATIENT PROTECTION for a WORKING VOLTAGE equal to MAXIMUM MAINS VOLTAGE		N/A
	- cannot be connected to earth or hazardous voltage while the PATIENT CONNECTIONS are in contact with PATIENT:	No patient connections	N/A
	– conductive part of connector not separated from all PATIENT CONNECTIONS did not come into contact with a flat conductive plate of not less than 100 mm diameter		N/A
	– CLEARANCE between connector pins and a flat surface is at least 0.5 mm		N/A
	– conductive part pluggable into a mains socket protected from making contact with parts at MAINS VOLTAGE by insulation with a CREEPAGE DISTANCE of at least 1.0 mm, a 1500 V dielectric strength and complying with 8.8.4.1		N/A
	– required test finger did not make electrical contact with conductive part when applied against access openings with a force of 10 N,		N/A
	Test finger test (10 N):		N/A
	Except when RISK MANAGEMENT PROCESS includes an assessment of RISKS resulting from contact with objects other than mains sockets or flat surfaces: (ISO 14971 Cl. 4.2-4.4, 5)		N/A
8.5.4	WORKING VOLTAGE		Pass
	– Input supply voltage to ME EQUIPMENT was RATED voltage or voltage within RATED range resulting in highest measured value (V):	Tested at 240Vac	Pass
	– WORKING VOLTAGE for d.c. voltages with superimposed ripple was average value when peak-to-peak ripple less than 10% of average value or peak voltage when peak-to-peak ripple exceeding 10% of average value (V):	Considered for dc outputs	Pass
	– WORKING VOLTAGE for each MEANS OF PROTECTION forming DOUBLE INSULATION was voltage DOUBLE INSULATION, as a whole, subjected to (V):	See Insulation Diagram and Insulation Table	Pass
	– Intentional or accidental earthing of PATIENT regarded as a NORMAL CONDITION for WORKING VOLTAGE involving a PATIENT CONNECTION not connected to earth	No applied parts	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– WORKING VOLTAGE between PATIENT CONNECTIONS of an F-TYPE APPLIED PART and ENCLOSURE was highest voltage appearing across insulation in NORMAL USE including earthing of any part of APPLIED PART (V):	No applied parts	N/A
	– WORKING VOLTAGE for DEFIBRILLATION-PROOF APPLIED PARTS determined disregarding possible presence of defibrillation voltages		N/A
	– WORKING VOLTAGE was equal to resonance voltage in case of motors provided with capacitors between the point where a winding and a capacitor are connected together and a terminal for external conductors (V):	No such parts	N/A
8.5.5	DEFIBRILLATION-PROOF APPLIED PARTS	No such parts	N/A
8.5.5.1	Classification “DEFIBRILLATION-PROOF APPLIED PART” applied to one APPLIED PART in its entirety		N/A
	Isolation of PATIENT CONNECTIONS of a DEFIBRILLATION-PROOF APPLIED PART from other parts of ME EQUIPMENT accomplished as follows:		N/A
	a) No hazardous electrical energies appear during a discharge of cardiac defibrillator:		N/A
	b) ME EQUIPMENT complied with relevant requirements of this standard, providing BASIC SAFETY and ESSENTIAL PERFORMANCE following exposure to defibrillation voltage, and recovery time stated in ACCOMPANYING DOCUMENTS:		N/A
8.5.5.2	Means provided to limit energy delivered to a 100 Ω load:		N/A
8.6	Protective and functional earthing and potential equalization of ME EQUIPMENT		N/A
8.6.1	Requirements of 8.6.2 to 8.6.8 applied	Component only; to be evaluated in end product	N/A
	Parts complying with IEC 60950-1 for protective earthing and serving as MEANS OF OPERATOR PROTECTION but not PATIENT PROTECTION exempted from requirements of 8.6.2 to 8.6.8		N/A
8.6.2	PROTECTIVE EARTH TERMINAL is suitable for connection to an external protective earthing system by a PROTECTIVE EARTH CONDUCTOR in a POWER SUPPLY CORD and a suitable plug or by a FIXED PROTECTIVE EARTH CONDUCTOR:	Component only; to be evaluated in end product	N/A
	Clamping means of PROTECTIVE EARTH TERMINAL of ME EQUIPMENT for FIXED supply conductors or POWER SUPPLY CORDS comply with 8.11.4.3, and cannot be loosened without TOOL		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Screws for internal PROTECTIVE EARTH CONNECTIONS completely covered or protected against accidental loosening from outside:		N/A
	Earth pin of APPLIANCE INLET forming supply connection to ME EQUIPMENT regarded as PROTECTIVE EARTH TERMINAL		N/A
	PROTECTIVE EARTH TERMINAL not used for mechanical connection between different parts of ME EQUIPMENT or securing components not related to protective or functional earthing		N/A
8.6.3	PROTECTIVE EARTH CONNECTION not used for a moving part,	No such parts	N/A
	except when MANUFACTURER demonstrated in RISK MANAGEMENT FILE connection will remain reliable during EXPECTED SERVICE LIFE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
8.6.4	a) PROTECTIVE EARTH CONNECTIONS carried fault currents reliably and without excessive voltage drop:	Component only, to be determined in the end product	N/A
	b) Allowable TOUCH CURRENT and PATIENT LEAKAGE CURRENT in SINGLE FAULT CONDITION were not exceeded, when impedance of PROTECTIVE EARTH CONNECTIONS exceeded values in 8.6.4 a) and Table 8.6.4, due to limited current capability of relevant circuits:		N/A
8.6.5	Surface coatings		N/A
	Poorly conducting surface coatings on conductive elements removed at the point of contact		N/A
	Coating not removed when requirements for impedance and current-carrying capacity met		N/A
8.6.6	Plugs and sockets		N/A
	PROTECTIVE EARTH CONNECTION where connection between SUPPLY MAINS and ME EQUIPMENT or between separate parts of ME EQUIPMENT made via a plug and socket was made before and interrupted after supply connections		N/A
	- applied also where interchangeable parts are PROTECTIVELY EARTHED		N/A
8.6.7	Terminal for connection of a POTENTIAL EQUALIZATION CONDUCTOR		N/A
	– Terminal is accessible to OPERATOR with ME EQUIPMENT in any position of NORMAL USE	No such parts	N/A
	–accidental disconnection avoided in NORMAL USE		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– Terminal allows conductor to be detached without a TOOL		N/A
	– Terminal not used for a PROTECTIVE EARTH CONNECTION		N/A
	– Terminal marked with symbol 8 of Table D.1		N/A
	– Instructions for use contain information on function and use of POTENTIAL EQUALIZATION CONDUCTOR together with a reference to requirements of this standard		N/A
	POWER SUPPLY CORD does not incorporate a POTENTIAL EQUALIZATION CONDUCTOR		N/A
8.6.8	FUNCTIONAL EARTH TERMINAL not used to provide a PROTECTIVE EARTH CONNECTION		N/A
8.6.9	Class II ME EQUIPMENT		N/A
	Third conductor of POWER SUPPLY CORD connected to protective earth contact of MAINS PLUG provided with CLASS II ME EQUIPMENT with isolated internal screens used as functional earth connection to the screen's FUNCTIONAL EARTH TERMINAL, coloured green and yellow		N/A
	ACCOMPANYING DOCUMENTS include a statement that the third conductor in the POWER SUPPLY CORD is only a functional earth.		N/A
	Two MEANS OF PROTECTION provided between insulation of internal screens and all internal wiring connected to them and ACCESSIBLE PARTS		N/A
8.7	LEAKAGE CURRENTS and PATIENT AUXILIARY CURRENTS		Pass
8.7.1	a) Electrical isolation providing protection against electric shock limits currents to values in 8.7.3:	See appended Tables 8.7	Pass
	b) Specified values of EARTH LEAKAGE, TOUCH, PATIENT LEAKAGE, and PATIENT AUXILIARY CURRENTS applied in combination of conditions in appended Table 8.7:	See appended Tables 8.7	Pass
8.7.2	Allowable values specified in 8.7.3 applied under SINGLE FAULT CONDITIONS of 8.1 b), except		Pass
	– where insulation used in conjunction with a PROTECTIVE EARTH CONNECTION, insulation short circuited only under conditions in 8.6.4 b)		Pass
	– the only SINGLE FAULT CONDITION for EARTH LEAKAGE CURRENT was interruption of one supply conductor at a time		Pass
	– LEAKAGE CURRENTS and PATIENT AUXILIARY CURRENT not measured in SINGLE FAULT CONDITION of short circuiting of one constituent part of DOUBLE INSULATION		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	SINGLE FAULT CONDITIONS not applied at same time as special test conditions of MAXIMUM MAINS VOLTAGE on APPLIED PARTS and non-PROTECTIVELY EARTHED parts of ENCLOSURE		N/A
8.7.3	Allowable Values		Pass
	a) Allowable values in 8.7.3 b), c), and d) measured based on, and are relative to currents in Fig 12 a), or by a device measuring frequency contents of currents as in Fig 12 b:	See appended Table 8.7	Pass
	b) Allowable values of PATIENT LEAKAGE and AUXILIARY CURRENTS are according to Tables 3 & 4, and values of a.c. are relative to currents having a frequency not less than 0.1Hz:	See appended Table 8.7	Pass
	c) TOUCH CURRENT did not exceed 100 µA in NORMAL CONDITION and 500 µA in SINGLE FAULT CONDITION (ITNC, ITSFC):	Component only; to be evaluated in end product	N/A
	d) EARTH LEAKAGE CURRENT did not exceed 5 mA in NORMAL CONDITION and 10 mA in SINGLE FAULT CONDITION (IENC, IESFC):	See appended Table 8.7	Pass
	Higher values of EARTH LEAKAGE CURRENT permitted for PERMANENTLY INSTALLED ME EQUIPMENT connected to a supply circuit supplying only this ME EQUIPMENT according to local regulations or IEC 60364-7-710:		N/A
	e) LEAKAGE CURRENTS, regardless of waveform and frequency, did not exceed 10 mA r.m.s. in NORMAL or in SINGLE FAULT CONDITION (measured with a non-frequency-weighted device:	Component only; to be evaluated in end product	N/A
	f) LEAKAGE CURRENTS flowing in a FUNCTIONAL EARTH CONDUCTOR in a non-PERMANENTLY INSTALLED ME EQUIPMENT are 5 mA in NORMAL CONDITION, 10 mA in SINGLE FAULT CONDITION:		N/A
8.7.4	LEAKAGE and PATIENT AUXILIARY CURRENTS measurements:	See appended Table 8.7	Pass
8.8	Insulation		Pass
8.8.1	Insulation relied on as MEANS OF PROTECTION, including REINFORCED INSULATION subjected to testing		Pass
	Insulation exempted from test (complies with clause 4.8)	See appended table 8.10	N/A
	Insulation forming MEANS OF OPERATOR PROTECTION and complying with IEC 60950-1 for INSULATION CO-ORDINATION not tested as in 8.8		N/A
8.8.2	Distance through solid insulation or use of thin sheet material		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	Solid insulation forming SUPPLEMENTARY or REINFORCED INSULATION for a PEAK WORKING VOLTAGE greater than 71 V provided with:		Pass
	a) 0.4 mm, min, distance through insulation, or	Considered as part of Optocoupler UL Recognition	N/A
	b) does not form part of an ENCLOSURE and not subject to handling or abrasion during NORMAL USE, and comprised of:		N/A
	– at least two layers of material, each passed the appropriate dielectric strength test:		N/A
	– or three layers of material, for which all combinations of two layers together passed the appropriate dielectric strength test:		N/A
	Dielectric strength test for one or two layers was same as for one MEANS OF PROTECTION for SUPPLEMENTARY INSULATION		N/A
	Dielectric strength test for one or two layers was same as for two MEANS OF PROTECTION for REINFORCED INSULATION		N/A
	BASIC, SUPPLEMENTARY, and REINFORCED INSULATION required between windings of wound components separated by interleaved insulation complying with a) or b), or both, except when		N/A
	c) Wire with solid insulation, other than solvent based enamel, complying with a)		N/A
	d) Wire with multi-layer extruded or spirally wrapped insulation complying with b) and complying with Annex L		N/A
	e) Finished wire with spirally wrapped or multi-layer extruded insulation, complying with Annex L	Evaluated as part of component evaluation	Pass
	– BASIC INSULATION: minimum two wrapped layers or one extruded layer		N/A
	– SUPPLEMENTARY INSULATION: minimum two layers, wrapped or extruded		N/A
	– REINFORCED INSULATION: minimum three layers, wrapped or extruded		Pass
	In d) and e), for spirally wrapped insulation with CREEPAGE DISTANCES between layers less than in Table 12 or 16 (Pollution Degree 1) depending on type of insulation, path between layers sealed as a cemented joint in 8.9.3.3 and test voltages of TYPE TESTS in L.3 equal 1.6 times of normal values	Evaluated as part of component evaluation	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Protection against mechanical stress provided where two insulated wires or one bare and one insulated wire are in contact inside wound component, crossing at an angle between 45° and 90° and subject to winding tension :		N/A
	Finished component complied with routine dielectric strength tests of 8.8.3:	Evaluated as part of component evaluation	Pass
	Tests of Annex L not repeated since material data sheets confirm compliance:	See Table 8.10	Pass
8.8.3	Dielectric Strength		Pass
	Solid insulating materials with a safety function withstood dielectric strength test voltages:	See appended Table 8.8.3	Pass
8.8.4	Insulation other than wire insulation		Pass
8.8.4.1	Resistance to heat retained by all insulation and insulating partition walls during EXPECTED SERVICE LIFE of ME EQUIPMENT		Pass
	ME EQUIPMENT and design documentation examined:		N/A
	RISK MANAGEMENT FILE examined in conjunction with resistance to moisture, dielectric strength, and mechanical strength tests: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	RMF Reference to specific RISKS: 10018357 Rev A (8.8.4.1) (ISO 14971 Cl.Cl. 4.2-4.4, 5, 6.2-6.5)	Pass
	Satisfactory evidence of compliance provided by manufacturer for resistance to heat:	See enclosure Miscellaneous	Pass
	Tests conducted in absence of satisfactory evidence for resistance to heat:	See appended table 8.8.4.1	Pass
	a) ENCLOSURE and other external parts of insulating material, except insulation of flexible cords and parts of ceramic material, subjected to ball-pressure test using Fig 21 apparatus:		N/A
	b) Parts of insulating material supporting uninsulated parts of MAINS PART subjected to ball-pressure test in a), except at 125 °C ± 2 ° C or ambient indicated in technical description ±2°C plus temperature rise determined during test of 11.1 of relevant part, if higher (°C):	See appended Table 8.8.4.1	Pass
	Test not performed on parts of ceramic material, insulating parts of commutators, brush-caps, and similar, and on coil formers not used as REINFORCED INSULATION		Pass
8.8.4.2	Resistance to environmental stress		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Insulating characteristics and mechanical strength of all MEANS OF PROTECTION not likely to be impaired by environmental stresses including deposition of dirt resulting from wear of parts within EQUIPMENT, potentially reducing CREEPAGE and CLEARANCES below 8.9	Component for building-in; to be evaluated in end product	N/A
	Ceramic and similar materials not tightly sintered, and beads alone not used as SUPPLEMENTARY or REINFORCED INSULATION		N/A
	Insulating material with embedded heating conductors considered as one MEANS OF PROTECTION but not two MEANS OF PROTECTION		N/A
	Parts of natural latex rubber aged by suspending samples freely in an oxygen cylinder containing commercial oxygen to a pressure of 2.1 MPa ± 70 kPa, with an effective capacity of at least 10 times volume of samples		N/A
	There were no cracks visible to naked eyes after samples kept in cylinder at 70 °C ± 2 °C for 96h, and afterwards, left at room temperature for at least 16h		N/A
8.9	CREEPAGE DISTANCES and AIR CLEARANCES		Pass
8.9.1.1	CREEPAGE DISTANCES and AIR CLEARANCES are equal to or greater than values in Tables 12 to 16 (inclusive):	Refer to Insulation Diagram	Pass
8.9.1.15	CREEPAGE DISTANCES and AIR CLEARANCES for DEFIBRILLATION-PROOF APPLIED PARTS are 4 mm or more to meet 8.5.5.1		N/A
8.9.2	a) Short circuiting of each single one of CREEPAGE DISTANCES and CLEARANCES in turn did not result in a HAZARDOUS SITUATION , min CREEPAGE and CLEARANCES not applied:		N/A
8.9.3	Spaces filled by insulating compound		N/A
8.9.3.1	Only solid insulation requirements applied where distances between conductive parts filled with insulating compound		N/A
	Thermal cycling, humidity preconditioning, and dielectric strength tests		N/A
8.9.3.2	For insulating compound forming solid insulation between conductive parts, a single sample subjected to thermal cycling PROCEDURE of 8.9.3.4 followed by humidity preconditioning per 5.7 (for 48 hours), followed by dielectric strength test (cl. 8.8.3 at 1,6 x test voltage):		N/A
	Cracks or voids in insulating compound affecting homogeneity of material didn’t occur		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.9.3.3	Where insulating compound forms a cemented joint with other insulating parts, three samples tested for reliability of joint		N/A
	A winding of solvent-based enamelled wire replaced for the test by a metal foil or by a few turns of bare wire placed close to cemented joint, and three samples tested as follows:		N/A
	– One sample subjected to thermal cycling PROCEDURE of 8.9.3.4, and immediately after the last period at highest temperature during thermal cycling followed by dielectric strength test of cl. 8.8.3 at 1.6 x the test voltage :		N/A
	– The other two samples subjected to humidity preconditioning of 5.7, except for 48 hours only followed by a dielectric strength test of cl. 8.8.3 at 1.6 times the test voltage		N/A
8.10	Components and wiring		Pass
8.10.1	Components of ME EQUIPMENT likely to result in an unacceptable RISK by their movements mounted securely:		Pass
	RISK MANAGEMENT FILE includes an assessment of RISKS related to unwanted movement of components: (ISO 14791 Cl. 4.2-4.4, 5, 6.2-6.5)	RMF Reference to specific RISKS: 10018357 Rev A (8.10.1) (ISO 14971 Cl.4.2-4.4, 5, 6.2-6.5)	Pass
8.10.2	Conductors and connectors of ME EQUIPMENT adequately secured or insulated to prevent accidental detachment:		Pass
	Stranded conductors are not solder-coated when secured by clamping means to prevent HAZARDOUS SITUATIONS		N/A
8.10.3	Interconnecting flexible cords detachable without a TOOL used provided with means for connection to comply with requirements for metal ACCESSIBLE PARTS when a connection is loosened or broken:	No such parts	N/A
8.10.4	Cord-connected HAND-HELD parts and cord-connected foot-operated control devices		N/A
8.10.4.1	Control devices of ME EQUIPMENT and their connection cords contain only conductors and components operating at 42.4 V peak a.c., max, or 60 V d.c. in circuits isolated from MAINS PART by two MEANS OF PROTECTION	No such parts	N/A
8.10.4.2	Connection and anchorage of a flexible cord to a HAND-HELD or foot-operated control device of ME EQUIPMENT, at both ends of the cable to the control device, complies with the requirements for POWER SUPPLY CORDS in Cl. 8.11.3		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Other HAND-HELD parts, if disturbance or breaking of one or more of the connections could result in a HAZARDOUS SITUATION, also comply with tests of Cl. 8.11.3		N/A
8.10.5	Mechanical protection of wiring		N/A
	a) Internal cables and wiring adequately protected against contact with a moving part or from friction at sharp corners and edges:	Component only, to be determined in the end product	N/A
	b) Wiring, cord forms, or components are not likely to be damaged during assembly or during opening or closing of ACCESS COVERS		N/A
8.10.6	Guiding rollers prevent bending of movable insulated conductors around a radius of less than five times the outer diameter of the lead	No such parts	N/A
8.10.7	a) Insulating sleeve adequately secured:		N/A
	b) Sheath of a flexible cord not used as a MEANS OF PROTECTION inside ME EQUIPMENT when it is subject to mechanical or thermal stresses beyond its RATED characteristics		N/A
	c) Insulated conductors of ME EQUIPMENT subject to temperatures exceeding 70 °C:		N/A
8.11	MAINS PARTS, components and layout		Pass
8.11.1	a) ME EQUIPMENT provided with means of electrically isolating its circuits from SUPPLY MAINS simultaneously on all poles:	Component for building-in; to be evaluated in end product	N/A
	PERMANENTLY INSTALLED ME EQUIPMENT connected to a poly-phase SUPPLY MAINS equipped with a device not interrupting neutral conductor, provided local installation conditions prevent voltage on neutral conductor from exceeding limits in 8.4.2 c)		N/A
	PERMANENTLY INSTALLED ME EQUIPMENT provided with means to isolate its circuits electrically from the SUPPLY MAINS are capable of being locked in the off position		N/A
	- the isolation device specified in the ACCOMPANYING DOCUMENTS		N/A
	b) Means of isolation incorporated in ME EQUIPMENT, or if external, described in technical description:	Component only, to be determined in the end product	N/A
	c) A SUPPLY MAINS switch used to comply with 8.11.1 a) complies with CREEPAGE / CLEARANCES for a MAINS TRANSIENT VOLTAGE of 4 kV:		N/A
	d) A SUPPLY MAINS switch not incorporated in a POWER SUPPLY CORD or external flexible lead		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	e) Actuator of a SUPPLY MAINS switch used to comply with 8.11.1 a) complies with IEC 60447		N/A
	f) A suitable plug device used in non-PERMANENTLY INSTALLED ME EQUIPMENT with no SUPPLY MAINS SWITCH:		N/A
	g) A fuse or a semiconductor device not used as an isolating means		Pass
	h) ME EQUIPMENT not provided with a device causing disconnection of ME EQUIPMENT from SUPPLY MAINS by producing a short circuit resulting in operation of an overcurrent protection device		N/A
	i) Parts within ENCLOSURE of ME EQUIPMENT with a circuit > 42.4 V peak a.c. or 60 V d.c. that cannot be disconnected from its supply by an external switch or a plug device accessible at all times is protected against touch even after opening ENCLOSURE by an additional covering		N/A
	A clear warning notice is marked on outside of ME EQUIPMENT to indicate it exceeds allowable touch voltage		N/A
	For a part that could not be disconnected from supply by an external switch or a plug device accessible at all times, the required cover or warning notice complied with this clause		N/A
	Standard test finger applied		N/A
8.11.2	MULTIPLE SOCKET-OUTLETS integral with ME EQUIPMENT complied with 16.2 d), second dash; and 16.9.2	No such parts	N/A
8.11.3	POWER SUPPLY CORDS		N/A
8.11.3.1	MAINS PLUG not fitted with more than one POWER SUPPLY CORD	Component for building-in, to be determined as part of the end product	N/A
8.11.3.2	POWER SUPPLY CORDS are no less robust than ordinary tough rubber sheathed flexible cord (IEC 60245-1:2003, Annex A, designation 53) or ordinary polyvinyl chloride sheathed flexible cord (IEC 60227-1:1993, Annex A, design 53):		N/A
	Only polyvinyl chloride insulated POWER SUPPLY CORD with appropriate temperature rating used for ME EQUIPMENT having external metal parts with a temperature > 75 °C touchable by the cord in NORMAL USE:		N/A
8.11.3.3	NOMINAL cross-sectional area of conductors of POWER SUPPLY CORDS of ME EQUIPMENT is not less than in Table 17:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.11.3.4	APPLIANCE COUPLERS complying with IEC 60320-1 are considered to comply with 8.11.3.5 and 8.11.3.6:		N/A
8.11.3.5	Cord anchorage		N/A
	a) Conductors of POWER SUPPLY CORD provided with strain relief and insulation protected from abrasion at point of entry to ME EQUIPMENT or a MAINS CONNECTOR by a cord anchorage	Component for building-in to be determined as part of the end product	N/A
	b) Cord anchorage of POWER SUPPLY CORD is an insulating material, or		N/A
	– metal, insulated from conductive ACCESSIBLE PARTS non-PROTECTIVELY EARTHED by a MEANS OF PROTECTION, or		N/A
	– metal provided with an insulating lining affixed to cord anchorage		N/A
	c) Cord anchorage prevents cord from being clamped by a screw bearing directly on cord insulation		N/A
	d) Screws to be operated when replacing POWER SUPPLY CORD do not serve to secure any components		N/A
	e) Conductors of POWER SUPPLY CORD arranged to prevent PROTECTIVE EARTH CONDUCTOR against strain as long as phase conductors are in contact with their terminals		N/A
	f) Cord anchorage prevents POWER SUPPLY CORD from being pushed into ME EQUIPMENT or MAINS CONNECTOR		N/A
	Conductors of POWER SUPPLY CORD supplied by MANUFACTURER disconnected from terminals or from MAINS CONNECTOR and cord subjected 25 times to a pull applied with no jerks, each time for 1 s, on sheath of the value in Table 18:		N/A
	Cord subjected to a torque in Table 18 for one minute immediately after pull tests		N/A
	Cord anchorage did not allow cord sheath to be longitudinally displaced by more than 2 mm or conductor ends to move over a distance of more than 1 mm from their connected position		N/A
	CREEPAGE and CLEARANCES not reduced below limits in 8.9		N/A
	It was not possible to push the cord into ME EQUIPMENT or MAINS CONNECTOR to an extent the cord or internal parts would be damaged		N/A
8.11.3.6	POWER SUPPLY CORDS protected against excessive bending at inlet opening of equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Cord guard complied with test of IEC 60335-1:2001, Clause 25.14, or		N/A
	ME EQUIPMENT placed such that axis of cord guard projected at an angle of 45° with cord free from stress, and a mass equal 10 x D2 gram attached to the free end of cord (g):		N/A
	Cord guard of temperature-sensitive material tested at 23 °C ± 2 °C, and flat cords bent in the plane of least resistance		N/A
	Curvature of the cord radius, immediately after mass attached, was not less than 1.5 x D:		N/A
8.11.4	MAINS TERMINAL DEVICES		N/A
8.11.4.1	PERMANENTLY INSTALLED and ME EQUIPMENT with non-DETACHABLE POWER SUPPLY CORD provided with MAINS TERMINAL DEVICES ensuring reliable connection	Component for building-in to be determined as part of the end product	N/A
	Terminals alone are not used to keep conductors in position		N/A
	Terminals of components other than terminal blocks complying with requirements of this Clause and marked accordingly used as terminals intended for external conductors		N/A
	Screws and nuts clamping external conductors do not serve to secure any other component		N/A
8.11.4.2	Arrangement of MAINS TERMINAL DEVICES		N/A
	a) Terminals provided for connection of external cords or POWER SUPPLY CORDS together with PROTECTIVE EARTH TERMINAL grouped to provide convenient means of connection		N/A
	d) MAINS TERMINAL DEVICES not accessible without use of a TOOL		N/A
	e) A MEANS OF PROTECTION are not short circuited when one end of a flexible conductor with NOMINAL cross-sectional area is stripped 8 mm and a single free wire is bent in each possible direction		N/A
8.11.4.3	Internal wiring not subjected to stress and CREEPAGE and CLEARANCES not reduced after fastening and loosening a conductor of largest cross-sectional area 10 times	No such parts	N/A
8.11.4.4	Terminals with clamping means for a rewireable flexible cord did not require special preparation of conductors and conductors were not damaged and did not slip out when clamping means tightened		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.11.4.5	Adequate space provided inside ME EQUIPMENT designed for FIXED wiring or a rewireable POWER SUPPLY CORD to allow for connection of conductors		N/A
	Correct connection and positioning of conductors before ACCESS COVER verified by an installation test		N/A
8.11.5	Mains fuses and OVER-CURRENT RELEASES		Pass
	A fuse or OVER-CURRENT RELEASE provided in each supply lead for CLASS I and CLASS II ME EQUIPMENT with a functional earth connection:	Each supply conductor is provided with a fuse. Suffix "SF" models provided with single fuse, consideration to be given in end product. See appended Table 8.10	Pass
	- in at least one supply lead for other single-phase CLASS II ME EQUIPMENT:		N/A
	– neutral conductor not fused for PERMANENTLY INSTALLED ME EQUIPMENT		N/A
	– fuses or OVER-CURRENT RELEASES omitted due to provision of two MEANS OF PROTECTION between all parts within MAINS PART		N/A
	Protective devices have adequate breaking capacity to interrupt the max. fault current:	Component only, to be determined in the end product	N/A
	A fuse or OVER-CURRENT RELEASE not provided in a PROTECTIVE EARTH CONDUCTOR		Pass
	Justification for omission of fuses or OVER-CURRENT RELEASES documented:		N/A
8.11.6	Internal wiring of the MAINS PART		Pass
	a) Cross-sectional area of internal wiring in a MAINS PART between MAINS TERMINAL DEVICE or APPLIANCE INLET and protective devices suitable:		Pass
	b) Cross-sectional area of other wiring in MAINS PART and sizes of tracks on printed wiring circuits are sufficient:	See appended Table 8.10 for details	Pass
9	PROTECTION AGAINST MECHANICAL HAZARDS OF ME EQUIPMENT AND ME SYSTEMS		Pass
9.2	HAZARDS associated with moving parts		N/A
9.2.1	When ME EQUIPMENT with moving parts PROPERLY INSTALLED, used per ACCOMPANYING DOCUMENTS or under foreseeable misuse, RISKS associated with moving parts reduced to an acceptable level:	Component, to be determined as part of end product	N/A
	RISK from contact with moving parts reduced to an acceptable level using protective measures, (access, function, shape of parts, energy, speed of motion, and benefits to PATIENT considered)		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	RESIDUAL RISK associated with moving parts considered acceptable when exposure was needed for ME EQUIPMENT to perform its intended function, and		N/A
	RISK CONTROLS implemented:		N/A
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with moving parts: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	All RISKS associated with moving parts have been reduced to an acceptable level		N/A
9.2.2	TRAPPING ZONE		N/A
9.2.2.1	ME EQUIPMENT with a TRAPPING ZONE complied with one or more of the following as feasible:	Component, to be determined as part of end product	N/A
	– Gaps in Clause 9.2.2.2, or		N/A
	– Safe distances in Clause 9.2.2.3, or		N/A
	– GUARDS and other RISK CONTROL measures in 9.2.2.4, or		N/A
	– Continuous activation in Clause 9.2.2.5		N/A
	Control of relevant motion complied with 9.2.2.6 when implementation of above protective measures were inconsistent with INTENDED USE of ME EQUIPMENT or ME SYSTEM		N/A
9.2.2.2	A TRAPPING ZONE considered not to present a MECHANICAL HAZARD when gaps of TRAPPING ZONE complied with dimensions per Table 20:	Component, to be determined as part of end product	N/A
9.2.2.3	A TRAPPING ZONE considered not to present a MECHANICAL HAZARD when distances separating OPERATOR, PATIENT, and others from TRAPPING ZONES exceeded values in ISO 13857:2008:	Component, to be determined as part of end product	N/A
9.2.2.4	GUARDS and other RISK CONTROL measures		N/A
9.2.2.4.1	A TRAPPING ZONE do not to present a MECHANICAL HAZARD when GUARDS or other RISK CONTROL measures are of robust construction, not easy to bypass or render non-operational, and did not introduce additional unacceptable RISK:	Component, to be determined as part of end product	N/A
9.2.2.4.2	FIXED GUARDS held in place by systems that can only be dismantled with a TOOL		N/A
9.2.2.4.3	Movable GUARDS that can be opened without a TOOL remained attached when GUARD was open		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– they are associated with an interlock preventing relevant moving parts from starting to move while TRAPPING ZONE is accessible, and stops movement when the GUARD is opened,		N/A
	– absence or failure of one of their components prevents starting, and stops moving parts		N/A
	Movable GUARDS complied with any applicable tests		N/A
9.2.2.4.4	Other RISK CONTROL designed and incorporated into to the control system stops movement and		N/A
	– SINGLE FAULT CONDITIONS have a second RISK CONTROL, or		N/A
	ME EQUIPMENT is SINGLE FAULT SAFE		N/A
9.2.2.5	Continuous activation		N/A
	Continuous activation used as a RISK CONTROL, complies with the following	Component, to be determined as part of end product	N/A
	a) movement was in OPERATOR'S field of view		N/A
	b) movement of ME EQUIPMENT or its parts was possible only by continuous activation of control by OPERATOR		N/A
	c) a second RISK CONTROL provided for SINGLE FAULT CONDITION of continuous activation system, or		N/A
	- the continuous activation system is SINGLE FAULT SAFE		N/A
9.2.2.6	Speed of movement(s) positioning parts of ME EQUIPMENT or PATIENT limited to allow OPERATOR control of the movement	Component, to be determined as part of end product	N/A
	Over travel of such movement occurring after operation of a control to stop movement, did not result in an unacceptable RISK		N/A
9.2.3	Other MECHANICAL HAZARDS associated with moving parts		N/A
9.2.3.1	Controls positioned, recessed, or protected by other means so that they cannot be accidentally actuated		N/A
	- unless for the intended PATIENT, the USABILITY ENGINEERING PROCESS concludes otherwise (e.g. PATIENT with special needs), or		N/A
	- activation does not result in an unacceptable RISK		N/A
9.2.3.2	Over travel past range limits of the ME EQUIPMENT prevented:		N/A
	Over travel means provided with mechanical strength to withstand loading in NORMAL CONDITION & reasonably foreseeable misuse:		N/A
9.2.4	Emergency stopping devices		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Where necessary to have one or more emergency stopping device(s), emergency stopping device complied with all the following, except for actuating switch capable of interrupting all power:	No such parts	N/A
	a) Emergency stopping device reduced RISK to an acceptable level		N/A
	RISK MANAGEMENT FILE indicates the use of an emergency stopping device reduces the RISK to an acceptable level: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.6)		N/A
	b) Proximity and response of OPERATOR to actuate emergency stopping device could be relied upon to prevent HARM		N/A
	c) Emergency stopping device actuator was readily accessible to OPERATOR		N/A
	d) Emergency stopping device(s) are not part of normal operation of ME EQUIPMENT		N/A
	e) Emergency switching operation or stopping means neither introduced further HAZARD nor interfered with operation necessary to remove original MECHANICAL HAZARD		N/A
	f) Emergency stopping device was able to break full load of relevant circuit, including possible stalled motor currents and the like		N/A
	g) Means for stopping of movements operate as a result of one single action		N/A
	h) Emergency stopping device provided with an actuator in red and easily distinguishable and identifiable from other controls		N/A
	i) An actuator interrupting/opening mechanical movements marked on or immediately adjacent to face of actuator with symbol 18 of Table D.1 or "STOP"		N/A
	j) Emergency stopping device, once actuated, maintained ME EQUIPMENT in disabled condition until a deliberate action, different from that used to actuate it, was performed		N/A
	k) Emergency stopping device is suitable for its application		N/A
9.2.5	Means provided to permit quick and safe release of PATIENT in event of breakdown of ME EQUIPMENT or failure of power supply, activation of a RISK CONTROL measure, or emergency stopping:	No such parts	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– and uncontrolled or unintended movement of ME EQUIPMENT that could result in an unacceptable RISK prevented		N/A
	– Situations where PATIENT is subjected to unacceptable RISKS due to proximity of moving parts, removal of normal exit routes, or other HAZARDS prevented		N/A
	– Measures provided to reduce RISK to an acceptable level when after removal of counterbalanced parts, other parts of ME EQUIPMENT can move in a hazardous way		N/A
	RISK MANAGEMENT FILE includes an assessment of RISKS to the PATIENT related to breakdown of the ME EQUIPMENT: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
9.3	Rough surfaces, sharp corners and edges of ME EQUIPMENT that could result in injury or damage avoided or covered:	All edges are sufficiently rounded or smooth	Pass
9.4	Instability HAZARDS		N/A
9.4.1	ME EQUIPMENT and its parts, other than FIXED, for placement on a surface did not overbalance (tip over) or move unexpectedly in NORMAL USE		N/A
9.4.2	Instability – overbalance		N/A
9.4.2.1	ME EQUIPMENT or its parts did not overbalance when prepared per ACCOMPANYING DOCUMENTS, or when tested:		N/A
9.4.2.2	Instability excluding transport		N/A
	ME EQUIPMENT or its did not overbalance when placed in different positions of NORMAL USE,:		N/A
	A warning provided when overbalance occurred during 10° inclined plane test		N/A
9.4.2.3	Instability from horizontal and vertical forces		N/A
	a) ME EQUIPMENT or its parts with a mass of 25kg or more, intended to be used on the floor, didn't overbalance due to pushing, leaning against it		N/A
	Surfaces of ME EQUIPMENT or its parts where a RISK of overbalancing exists from pushing, etc., permanently marked with a warning of the RISK		N/A
	ME EQUIPMENT did not overbalance when tested according to Cl. 9.4.2.3 a)		N/A
	b) ME EQUIPMENT, for use on the floor or on a table, did not overbalance due to sitting or stepping		N/A
	ME EQUIPMENT or its parts, for use on the floor or on a table, where RISK of overbalancing exists, permanently marked with the RISK warning:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	ME EQUIPMENT did not overbalance when tested according to Cl. 9.4.2.3b):		N/A
9.4.2.4	Castors and wheels		N/A
9.4.2.4.1	Means used for transportation of MOBILE ME EQUIPMENT did not result in an unacceptable RISK when MOBILE ME EQUIPMENT moved or parked in NORMAL USE		N/A
9.4.2.4.2	Force required to move MOBILE ME EQUIPMENT did not exceed 200 N:		N/A
9.4.2.4.3	MOBILE ME EQUIPMENT exceeding 45 kg able to pass over threshold:		N/A
9.4.3	Instability from unwanted lateral movement (including sliding)		N/A
9.4.3.1	a) Brakes of power-driven MOBILE ME EQUIPMENT normally activated and could only be released by continuous actuation of a control		N/A
	b) MOBILE ME EQUIPMENT provided with locking means to prevent unwanted movements		N/A
	c) No unwanted lateral movement resulted when MOBILE ME EQUIPMENT placed in its transport position when test per 9.4.3.1		N/A
9.4.3.2	Instability excluding transport		N/A
	a) MOBILE ME EQUIPMENT provided with wheel locks or braking system compliant with 5° tilt test:		N/A
	b) MOBILE ME EQUIPMENT provided with wheel locks or braking system compliant with lateral stability test		N/A
9.4.4	Grips and other handling devices		N/A
	a) ME EQUIPMENT with a mass of over 20 kg requiring lifting in NORMAL USE or transport provided with suitable handling means, or ACCOMPANYING DOCUMENTS specify safe lifting method	No such parts	N/A
	Handles, suitably placed to enable ME EQUIPMENT or its part to be carried by two or more persons and by examination of EQUIPMENT, its part, or ACCOMPANYING DOCUMENTS		N/A
	b) PORTABLE ME EQUIPMENT with a mass > 20 kg provided with one or more carrying-handles suitably placed to enable carrying by two or more persons as confirmed by actual carrying		N/A
	c) Carrying handles and grips and their means of attachment withstood loading test:		N/A
9.5	Expelled parts HAZARD		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.5.1	Suitability of means of protecting against expelled parts determined by assessment and examination of RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.3, 4.4, 5, 6.2-6.5)	No such parts	N/A
	All identified RISKS associated with expelled parts mitigated to an acceptable level		N/A
9.5.2	Cathode Ray tube(s) complied with IEC 60065:2001, Clause 18, or IEC 61965:	No such parts	N/A
9.6	Acoustic energy (including infra- and ultrasound) and vibration		N/A
9.6.1	Human exposure to acoustic energy and vibration from ME EQUIPMENT doesn't result in unacceptable RISK and	No such parts	N/A
	If necessary, confirmed in RISK MANAGEMENT FILE including audibility of auditory alarm signals, and PATIENT sensitivity:		N/A
	If necessary, confirmed in RISK MANAGEMENT FILE including audibility of auditory alarm signals, PATIENT sensitivity, and (ISO 14971 Cl. 4.2-44, 5, 6.2-6.5)		N/A
	All identified RISKS mitigated to an acceptable level		N/A
9.6.2	Acoustic energy		N/A
9.6.2.1	PATIENT, OPERATOR, and other persons are not exposed to acoustic energy from ME EQUIPMENT in NORMAL USE	No such parts	N/A
	– 80 dBA for a cumulative exposure of 24 h over a 24 h period (dBA):		-
	- 83 dBA (when halving the cumulative exposure time) (dBA):		-
	– 140 dBC (peak) sound pressure level for impulsive or impact acoustic energy (dB):		-
9.6.2.2	RISK MANAGEMENT FILE examined: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
9.6.3	Hand-transmitted vibration		N/A
	Means provided to protect PATIENT and OPERATOR when hand-transmitted frequency-weighted r.m.s. acceleration generated in NORMAL USE exceeds specified values	No such parts	N/A
	– 2.5 m/s2 for a cumulative time of 8 h during a 24 h period (m/s2):		N/A
	– Accelerations for different times, inversely proportional to square root of time (m/s2):		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.7	Pressure vessels and parts subject to pneumatic and hydraulic pressure		N/A
9.7.2	Pneumatic and hydraulic parts of ME EQUIPMENT or ACCESSORIES met requirements based on examination of RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.3-4.4, 5, 6.2-6.5)	No such parts	N/A
	– No unacceptable RISK resulted from loss of pressure or loss of vacuum		N/A
	– No unacceptable RISK resulted from a fluid jet caused by leakage or a component failure		N/A
	– Elements of ME EQUIPMENT or an ACCESSORY, especially pipes and hoses leading to an unacceptable RISK protected against harmful external effects		N/A
	– Reservoirs and similar vessels leading to an unacceptable RISK are automatically depressurized when ME EQUIPMENT is isolated from its power supply		N/A
	Means provided for isolation, or local depressurizing reservoirs and similar vessels, and pressure indication when above not possible		N/A
	– All elements remaining under pressure after isolation of ME EQUIPMENT or an ACCESSORY from its power supply resulting in an unacceptable RISK provided with clearly identified exhaust devices, and a warning to depressurize these elements before setting or maintenance activity		N/A
9.7.3	Maximum pressure a part of ME EQUIPMENT can be subjected to in NORMAL and SINGLE FAULT CONDITIONS considered to be highest of following:	No such parts	N/A
	a) RATED maximum supply pressure from an external source		N/A
	b) Pressure setting of a pressure-relief device provided as part of assembly		N/A
	c) Max pressure that can develop by a source of pressure that is part of assembly, unless pressure limited by a pressure-relief device		N/A
9.7.4	Max pressure in NORMAL and SINGLE FAULT CONDITIONS did not exceed MAXIMUM PERMISSIBLE WORKING PRESSURE for EQUIPMENT part, except as allowed in 9.7.7, confirmed by inspection of THE MANUFACTURER'S data for the component, ME EQUIPMENT, and by functional tests:	No such parts	N/A
9.7.5	A pressure vessel withstood a HYDRAULIC TEST PRESSURE when pressure was more than 50 kPa, and product of pressure and volume was more than 200 kPal:	No such parts	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.7.6	Pressure-control device regulating pressure in ME EQUIPMENT with pressure-relief device completed 100,000 cycles of operation under RATED load and prevented pressure from exceeding 90 % of setting of pressure-relief device in different conditions of NORMAL USE:	No such parts	N/A
9.7.7	Pressure-relief device(s) used where MAXIMUM PERMISSIBLE WORKING PRESSURE could otherwise be exceeded met the following, as confirmed by MANUFACTURER'S data, ME EQUIPMENT, RISK MANAGEMENT FILE, and functional tests:	No such parts	N/A
	a) Connected as close as possible to pressure vessel or parts of system it is to protect		N/A
	b) Installed to be readily accessible for inspection, maintenance, and repair		N/A
	c) Could be adjusted or rendered inoperative without a TOOL		N/A
	d) With discharge opening located and directed as to not to release material towards any person		N/A
	e) With discharge opening located and directed as to not to deposit material on parts that could result in an unacceptable RISK		N/A
	f) Adequate discharge capacity provided to ensure that pressure will not exceed MAXIMUM PERMISSIBLE WORKING PRESSURE of system it is connected to by more than 10 % when failure occurs in control of supply pressure		N/A
	g) No shut-off valve provided between a pressure-relief device and parts it is to protect		N/A
	h) Min number of cycles of operation 100 000, except for one-time use devices (bursting disks)		N/A
	RISK MANAGEMENT FILE includes an assessment of the risks associated with the discharge opening of the pressure relief device: (ISO 14971 Cl. 4.3, 4.4, 5, 6.2-6.5)		N/A
9.8	HAZARDS associated with support systems		N/A
9.8.1	ME EQUIPMENT parts designed to support loads or provide actuating forces when a mechanical fault could constitute an unacceptable RISK:	No such parts	N/A
	– Construction of support, suspension, or actuation system complied with Table 21 and TOTAL LOAD		N/A
	– Means of attachment of ACCESSORIES prevent possibility of incorrect attachment that could result in an unacceptable RISK		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– RISK ANALYSIS of support systems included MECHANICAL HAZARDS from static, dynamic, vibration, foundation and other movements, impact and pressure loading, temperature, environmental, manufacture and service conditions: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	– RISK ANALYSIS included effects of failures such as excessive deflection, plastic deformation, ductile/brittle fracture, fatigue fracture, instability (buckling), stress-assisted corrosion cracking, wear, material creep and deterioration, and residual stresses from manufacturing PROCESSES		N/A
	– Instructions on attachment of structures to a floor, wall, ceiling, included in ACCOMPANYING DOCUMENTS making adequate allowances for quality of materials used to make the connection and list the required materials		N/A
	Additional instructions provided on checking adequacy of surface of structure parts will be attached to		N/A
9.8.2	Support systems maintain structural integrity during EXPECTED SERVICE LIFE, and TENSILE SAFETY FACTORS are not less than in Table 21, except when an alternative method used to demonstrate structural integrity throughout EXPECTED SERVICE LIFE, or for a foot rest	No such parts	N/A
	Compliance with 9.8.1 and 9.8.2 confirmed by examination of ME EQUIPMENT, RISK MANAGEMENT FILE, specifications and material processing:		N/A
	RISK MANAGEMENT FILE includes an assessment of the structural integrity of support system: (ISO 14971 Cl. 4.3-4.4, 5, 6.2-6.5)		N/A
	All identified RISKS are mitigated to an acceptable level		N/A
	When test were conducted, testing consisted of application of a test load to support assembly equal to TOTAL LOAD times required TENSILE SAFETY FACTOR while support assembly under test was in equilibrium after 1 min, or not resulted in an unacceptable RISK:		N/A
	Where the equipment is not at equilibrium after 1 min, the RISK MANAGEMENT FILE includes an assessment of the test results: (ISO 14971 Cl. 4.3-4.4, 5, 6.2-6.5)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.8.3	Strength of PATIENT or OPERATOR support or suspension systems		N/A
9.8.3.1	ME EQUIPMENT parts supporting or immobilizing PATIENTS presents no unacceptable RISK of physical injuries and accidental loosening of secured joints:	No such parts	N/A
	RISK MANAGEMENT FILE includes assessment of the RISKS associated with physical injuries and accidental loosening of fixings: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	SAFE WORKING LOAD of ME EQUIPMENT or its parts supporting or suspending PATIENTS or OPERATORS is sum of mass of PATIENTS or mass of OPERATORS plus mass of ACCESSORIES supported by ME EQUIPMENT or its parts		N/A
	Supporting and suspending parts for adult human PATIENTS or OPERATORS designed for a PATIENT or OPERATOR with a min mass of 135 kg and ACCESSORIES with a min mass of 15 kg, unless stated by MANUFACTURER		N/A
	Maximum mass of PATIENT included in SAFE WORKING LOAD of ME EQUIPMENT or its parts supporting or suspending PATIENTS adapted when MANUFACTURER specified applications		N/A
	Max allowable PATIENT mass < 135 kg marked on ME EQUIPMENT and stated in ACCOMPANYING DOCUMENTS		N/A
	Max allowable PATIENT mass over 135 kg stated in ACCOMPANYING DOCUMENTS		N/A
	Examination of markings, ACCOMPANYING DOCUMENTS, and RISK MANAGEMENT FILE confirmed compliance :		N/A
9.8.3.2	a) Entire mass of PATIENT or OPERATOR distributed over an area of 0.1 m2 on a foot rest temporarily supporting a standing PATIENT or OPERATOR:	No such parts	N/A
	Compliance confirmed by examination of ME EQUIPMENT specifications of materials and their processing, and tests:		N/A
	b) Deflection of a support surface from PATIENT or OPERATOR loading on an area of support/ suspension where a PATIENT or OPERATOR can sit did not result in an unacceptable RISK		N/A
	Compliance confirmed by examination of ME EQUIPMENT, specifications of materials and their processing, and by a test:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
9.8.3.3	Dynamic forces that can be exerted on equipment parts supporting or suspending a PATIENT or OPERATOR in NORMAL USE maintained BASIC SAFETY and ESSENTIAL PERFORMANCE confirmed test	No such parts	N/A
9.8.4	Systems with MECHANICAL PROTECTIVE DEVICES		N/A
9.8.4.1	a) A MECHANICAL PROTECTIVE DEVICE provided for the support system	No such parts	N/A
	b) MECHANICAL PROTECTIVE complies with the requirements as follows:		N/A
	– Designed based on TOTAL LOAD		N/A
	– Has TENSILE SAFETY FACTORS for all parts not less than Table 21, row 7		N/A
	– Activated before travel produced an unacceptable RISK		N/A
	– Takes into account Clauses 9.2.5 and 9.8.4.3		N/A
	Compliance confirmed by examination of ME EQUIPMENT over travel calculations and evaluation plus functional tests:		N/A
9.8.4.2	Activation of MECHANICAL PROTECTIVE DEVICE is made obvious to OPERATOR when ME EQUIPMENT can still be used after failure of suspension or actuation means and activation of a MECHANICAL PROTECTIVE DEVICE	No such parts	N/A
	MECHANICAL PROTECTIVE DEVICE requires use of a TOOL to be reset or replaced		N/A
9.8.4.3	MECHANICAL PROTECTIVE DEVICE intended to function once		N/A
	–use of ME EQUIPMENT not possible until replacement of MECHANICAL PROTECTIVE DEVICE:	No such parts	N/A
	– ACCOMPANYING DOCUMENTS provided with required information on replacement by service personal		N/A
	– ME EQUIPMENT permanently marked with safety sign 2 of Table D.		N/A
	– Marking is adjacent to MECHANICAL PROTECTIVE DEVICE		N/A
	– Compliance confirmed by examination and following test:		N/A
	A chain, cable, band, spring, belt, jack screw nut, pneumatic or hydraulic hose, structural part or the like, employed to support a load, defeated by a convenient means causing maximum normal load to fall from most adverse position permitted by construction of ME EQUIPMENT		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Load included SAFE WORKING LOAD in 9.8.3.1 when system was capable of supporting a PATIENT or OPERATOR		N/A
	No evidence of damage to MECHANICAL PROTECTIVE DEVICE affecting its ability to perform its intended function		N/A
9.8.5	Systems without MECHANICAL PROTECTIVE DEVICES		N/A
	Support Systems does not require MECHANICAL PROTECTIVE DEVICES:	No such parts	N/A
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with wear on the support system: (ISO 14971 Cl. 4.3,4.4,5,6.2-6.5)		N/A
10	PROTECTION AGAINST UNWANTED AND EXCESSIVE RADIATION HAZARDS		N/A
10.1	X-Radiation		N/A
10.1.1	The air kerma did not exceed 5 µGy/hat 5 cm from surface of ME EQUIPMENT:	No such parts	N/A
	Annual exposure reduced taking into account the irradiated body part, national regulations, and/or international recommendations for ME EQUIPMENT that has permanent proximity to a PATIENT as part of the INTENDED USE		N/A
10.1.2	RISK from unintended X-radiation from ME EQUIPMENT producing X-radiation for diagnostic and therapeutic purposes addressed application of applicable particular and collateral standards, or:		N/A
	RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
10.2	RISK associated with alpha, beta, gamma, neutron, and other particle radiation, addressed in RISK MANAGEMENT PROCESS as shown in RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
10.3	The power density of unintended microwave radiation at frequencies between 1 GHz and 100 GHz does not exceed 10 W/m2	No such parts	N/A
	Microwave radiation is propagated intentionally		N/A
10.4	Relevant requirements of IEC 60825-1:2007 applied to lasers, laser light barriers or similar with a wavelength range of 180nm to 1 mm.	No such parts	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.5	RISK associated with visible electromagnetic radiation other than emitted by lasers and LEDS, when applicable, addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	No such parts	N/A
10.6	RISK associated with infrared radiation other than emitted by lasers and LEDS addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	No such parts	N/A
10.7	RISK associated with ultraviolet radiation other than emitted by lasers and LEDS addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	No such parts	N/A
11	PROTECTION AGAINST EXCESSIVE TEMPERATURES AND OTHER HAZARDS		Pass
11.1	Excessive temperatures in ME EQUIPMENT		Pass
11.1.1	Temperatures on ME EQUIPMENT parts did not exceed values in Tables 22 and:	See appended Table 11.1.1	Pass
	Surfaces of test corner did not exceed 90 °C	Component for building-in; to be evaluated in end product	N/A
	THERMAL CUT-OUTS did not operate in NORMAL CONDITION		N/A
	RISK MANAGEMENT FILE includes an assessment of the duration of contact for all APPLIED PARTS and ACCESSIBLE PARTS: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	Component only, to be determined in the end product	N/A
11.1.2	Temperature of APPLIED PARTS		N/A
11.1.2.1	APPLIED PARTS (hot or cold intended to supply heat to a PATIENT comply:	No such parts	N/A
	Clinical effects determined and documented in the RISK MANAGEMENT FILE (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	Temperature (hot or cold) of APPLIED PARTS intended to supply heat to a PATIENT disclosed in the instructions for use		N/A
11.1.2.2	APPLIED PARTS not intended to supply heat to a PATIENT complies with the limits of Table 24 in NORMAL CONDITION and SINGLE FAULT CONDITION:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	APPLIED PARTS surface temperature exceeds 41°C disclosed in the instruction manual:		N/A
	Maximum Temperature:		-
	Conditions for safe contact, e.g. duration or condition of the PATIENT:		-
	Clinical effects with respect to characteristics taken or surface pressure documented in the RISK MANAGEMENT FILE (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	APPLIED PARTS surface temperature of equal to or less than 41°C		N/A
	Analysis documented in the RISK MANAGEMENT FILE show that APPLIED PART temperatures are not affected by operation of the ME EQUIPMENT including SINGLE FAULT CONDITIONS. Measurement of APPLIED PART temperature according to 11.1.3 is not conducted:		N/A
	Surfaces of APPLIED PARTS that are cooled below ambient temperatures evaluated in the RISK MANAGEMENT PROCESS: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
11.1.3	Measurements not made when engineering judgment and rationale by MANUFACTURER indicated temperature limits could not exceed, as documented in RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	Test corner not used where engineering judgment and rationale by MANUFACTURER indicated test corner will not impact measurements, as documented in RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	Component for building-in, to be determined as part of the end product	N/A
	Probability of occurrence and duration of contact for parts likely to be touched and for APPLIED PARTS documented in RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	e) Where thermal regulatory devices make this method inappropriate, alternative methods for measurement are justified in the RISK MANAGEMENT FILE:		N/A
11.1.4	GUARDS preventing contact with hot or cold accessible surfaces removable only with a TOOL		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
11.2	Fire prevention		N/A
11.2.1	ENCLOSURE has strength and rigidity necessary to prevent a fire and met mechanical strength tests for ENCLOSURES in 15.3	Component only, to be determined in the end product	N/A
11.2.2	Me equipment and me systems used in conjunction with OXYGEN RICH ENVIRONMENTS		N/A
11.2.2.1	RISK of fire in an OXYGEN RICH ENVIRONMENT reduced by means limiting spread of:	Not intended for oxygen rich environments	N/A
	a) No sources of ignition discovered in an OXYGEN RICH ENVIRONMENT under any of the following conditions		N/A
	1) when temperature of material raised to its ignition temperature		N/A
	2) when temperatures affected solder or solder joints causing loosening, short circuiting, or other failures causing sparking or increasing material temperature to its ignition temperature		N/A
	3) when parts affecting safety cracked or changed outer shape exposing temperatures higher than 300°C or sparks due to overheating		N/A
	4) when temperatures of parts or components exceeded 300°C, atmosphere was 100 % oxygen, contact material solder, and fuel cotton		N/A
	5) when sparks provided adequate energy for ignition by exceeding limits of Figs 35 to 37 (inclusive), atmosphere was 100 % oxygen, contact material solder, and fuel cotton		N/A
	Deviations from worst case limits in 4) and 5) above based on lower oxygen concentrations or less flammable fuels justified and documented in RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	Alternative test in this clause did not identify existence of ignition sources at highest voltage or current, respectively:		N/A
	A safe upper limit determined by dividing upper limit of voltage or current, respectively, with safety margin factor of three:		N/A
	b) RESIDUAL RISK of fire in an OXYGEN RICH ENVIRONMENT as determined by application of RISK MANAGEMENT PROCESS is based on following configurations, or in combination: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	1) Electrical components in an OXYGEN RICH ENVIRONMENT provided with power supplies having limited energy levels lower than those considered sufficient for ignition in 11.2.2.1 a) as determined by examination, measurement or calculation of power, energy, and temperatures in NORMAL and SINGLE FAULT CONDITIONS identified in 11.2.3:		N/A
	2) Max oxygen concentration measured until it did not exceed 25 % in ventilated compartments with parts that can be a source of ignition only in SINGLE FAULT CONDITION and can be penetrated by oxygen due to an undetected leak (%):		N/A
	3) A compartment with parts or components that can be a source of ignition only under SINGLE FAULT CONDITION separated from another compartment containing an OXYGEN RICH ENVIRONMENT by sealing all joints and holes for cables, shafts, or other purposes		N/A
	Effect of possible leaks and failures under SINGLE FAULT CONDITION that could cause ignition evaluated using a RISK ASSESSMENT to determine maintenance intervals by examination of documentation and RISK MANAGEMENT FILE:		N/A
	4) Fire initiated in ENCLOSURE of electrical components in a compartment with OXYGEN RICH ENVIRONMENT that can become a source of ignition only under SINGLE FAULT CONDITIONS self-extinguished rapidly and no hazardous amount of toxic gases reached PATIENT as determined by analysis of gases:		N/A
11.2.2.2	RISK of ignition did not occur and oxygen concentration did not exceed 25% in immediate surroundings due to location of external exhaust outlets of an OXYGEN RICH ENVIRONMENT		N/A
11.2.2.3	Electrical connections within a compartment containing an OXYGEN RICH ENVIRONMENT under NORMAL USE did not produce sparks		N/A
	– Screw-attachments protected against loosening during use by varnishing, use of spring washers, or adequate torques		N/A
	– Soldered, crimped, and pin-and-socket connections of cables exiting ENCLOSURE include additional mechanical securing means		N/A
11.2.3	SINGLE FAULT CONDITIONS related to OXYGEN RICH ENVIRONMENTS ME EQUIPMENT and ME SYSTEMS considered		N/A
	– Failure of a ventilation system constructed in accordance with 11.2.2.1 b) 2):		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– Failure of a barrier constructed in accordance with 11.2.2.1 b) 3):		N/A
	– Failure of a component creating a source of ignition (as defined in 11.2.2.1 a):		N/A
	– Failure of solid insulation or creepage and clearances providing equivalent of at least one MEANS OF PATIENT PROTECTION but less than two MEANS OF PATIENT PROTECTION that could create a source of ignition defined in 11.2.2.1 a):		N/A
	– Failure of a pneumatic component resulting in leakage of oxygen-enriched gas:		N/A
11.3	Constructional requirements for fire ENCLOSURES of ME EQUIPMENT		N/A
	ME EQUIPMENT met this clause for alternate means of compliance with selected HAZARDOUS SITUATIONS and fault conditions in 13.1.2:	Component intended for building-in, be determined as part of the end product	N/A
	Constructional requirements were met, or		N/A
	- constructional requirements specifically analysed in RISK MANAGEMENT FILE (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	Justification, when requirement not met:		N/A
	a) Flammability classification of insulated wire within fire ENCLOSURE is FV-1, or better, based on IEC 60695 series as determined by examination of data on materials:	Component for building-in; t be evaluated in end product	N/A
	Flammability classification of connectors, printed circuit boards, and insulating material on which components are mounted is FV-2, or better, based on IEC 60695-11-10 as decided by examination of materials data:		N/A
	If no FV Certification, FV tests based on IEC 60695-11-10 conducted on 3 samples of complete parts (or sections of it), including area with min. thickness, ventilation openings		N/A
	b) Fire ENCLOSURE met following:		N/A
	1) No openings at bottom or, as specified in Fig 39, constructed with baffles as in Fig 38, or made of perforated metal as in Table 25, or a metal screen with a mesh ≤ 2 × 2 mm centre to centre and wire diameter of at least 0.45 mm		N/A
	2) No openings on the sides within the area included within the inclined line C in Fig 39		N/A
	3) ENCLOSURE, baffles, and flame barriers have adequate rigidity and are made of appropriate metal or of non-metallic materials:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
11.4	ME EQUIPMENT and ME SYSTEMS intended for use with flammable anaesthetics		N/A
	ME EQUIPMENT, ME SYSTEMS and parts described in ACCOMPANYING DOCUMENTS for use with flammable with Annex G	Not evaluated for use in the presence of flammable anesthetics	N/A
11.5	ME EQUIPMENT and ME SYSTEMS intended for use in conjunction with flammable agents		N/A
	MANUFACTURER'S RISK MANAGEMENT PROCESS addresses possibility of fire and associated mitigations as confirmed by examination of RISK MANAGEMENT FILE: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	Not evaluated for use in the presence of flammable agents	N/A
11.6	Overflow, spillage, leakage, ingress of water or particulate matter, cleaning, disinfection, sterilization and compatibility with substances used with the ME EQUIPMENT		N/A
11.6.1	Sufficient degree of protection provided against overflow, spillage, leakage, ingress of water or particulate matter, cleaning, disinfection and sterilization, and compatibility with substances used with ME EQUIPMENT:	Component for building-in; to be evaluated in end product	N/A
11.6.2	Overflow in ME EQUIPMENT		N/A
	ME EQUIPMENT incorporates a reservoir or liquid storage that did not wet any MEANS OF PROTECTION, nor result in the loss of BASIC SAFETY or ESSENTIAL PERFORMANCE:	Component only, to be determined in the end product	N/A
	Maximum fill level is indicated by marking on the ME EQUIPMENT and a warning or safety notice is given, no HAZARDOUS SITUATION (as specified in 13.1) or unacceptable RISK due to overflow developed when the reservoir or liquid storage chamber is filled to its maximum capacity and the TRANSPORTABLE ME EQUIPMENT is tilted through an angle of 10°, or for MOBILE ME EQUIPMENT exceeding 45 kg, is moved over a threshold as described in 9.4.2.4.3.		N/A
	No warning or safety notice provided regarding the maximum fill level, no HAZARDOUS SITUATION (as specified in 13.1) or unacceptable RISK due to overflow developed when the reservoir or liquid storage chamber was filled to 15 % above the maximum capacity and the TRANSPORTABLE ME EQUIPMENT was tilted through an angle of 10°, or in MOBILE ME EQUIPMENT exceeding 45 kg, was moved over a threshold as described in 9.4.2.4.3.		N/A
11.6.3	Spillage on ME EQUIPMENT and ME SYSTEM		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	ME EQUIPMENT and ME SYSTEMS handling liquids constructed that spillage does not wet parts as determined by review of the RISK MANAGEMENT FILE and test: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	RISK ANALYSIS identifies the type of liquid, volume, duration and location of the spill:		N/A
11.6.5	Ingress of water or particulate matter into ME EQUIPMENT and ME SYSTEMS		N/A
	ME EQUIPMENT with IP Code placed in least favourable position of NORMAL USE and subjected to tests of IEC 60529 (IP Code):		N/A
	ME EQUIPMENT met dielectric strength and LEAKAGE CURRENT tests and there were no bridging of insulation or electrical components that could result in the loss of BASIC SAFETY or ESSENTIAL PERFORMANCE in NORMAL CONDITION or in combination with a SINGLE FAULT CONDITION:		N/A
11.6.6	Cleaning and disinfection of ME EQUIPMENT and ME SYSTEMS		N/A
	ME EQUIPMENT/ME SYSTEM and their parts and ACCESSORIES cleaned or disinfected using methods specified in instructions for use:	Component only, to be determined in the end product	N/A
	Effects of multiple cleanings/disinfections during EXPECTED SERVICE LIFE of EQUIPMENT evaluated by MANUFACTURER:		N/A
11.6.7	Sterilization of ME EQUIPMENT and ME SYSTEMS		N/A
	ME EQUIPMENT, ME SYSTEMS and their parts or ACCESSORIES intended to be sterilized assessed and documented and compliant with tests:	No such parts	N/A
	RISK MANAGEMENT FILE includes an assessment of the RISKS associated with any deterioration following sterilization: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
11.6.8	RISKS associated with compatibility of substances used with ME EQUIPMENT addressed in RISK MANAGEMENT PROCESS (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
11.7	ME EQUIPMENT, ME SYSTEM, and ACCESSORIES coming into direct or indirect contact with biological tissues, cells, or body fluids assessed and documented		N/A
11.8	Interruption and restoration of power supply did not result in a loss of BASIC SAFETY or ESSENTIAL PERFORMANCE		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
12	ACCURACY OF CONTROLS AND INSTRUMENTS AND PROTECTION AGAINST HAZARDOUS OUTPUTS		N/A
12.1	RISKS associated with accuracy of controls and instruments stated: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	No such parts	N/A
12.2	RISK of poor USABILITY, including identification, marking, and documents addressed in a USABILITY ENGINEERING:		N/A
12.3	MANUFACTURER implemented an ALARM SYSTEM compliant with IEC 60601-1-8. :		N/A
12.4	Protection against hazardous output		N/A
12.4.1	RISKS associated with hazardous output arising from intentional exceeding of safety limits addressed in RISK MANAGEMENT PROCESS: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
12.4.2	- need for indication associated with hazardous output addressed in RISK MANAGEMENT PROCESS: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
12.4.3	RISKS associated with accidental selection of excessive output values for ME EQUIPMENT with a multi-purpose unit addressed in RISK MANAGEMENT PROCESS : (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
12.4.4	RISKS associated with incorrect output addressed in RISK MANAGEMENT PROCESS: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
12.4.5	Diagnostic or therapeutic radiation		N/A
12.4.5.1	Adequate provisions to protect OPERATORS, PATIENTS, other persons and sensitive devices in vicinity of unwanted or excessive radiation		N/A
	Radiation safety ensured by compliance with requirements of appropriate standards		N/A
12.4.5.2	ME EQUIPMENT and ME SYSTEMS designed to produce X-radiation for diagnostic imaging purposes complied with IEC 60601-1-3 :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
12.4.5.3	RISKS associated with radiotherapy addressed in RISK MANAGEMENT PROCESS as: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
12.4.5.4	RISKS associated with ME EQUIPMENT producing diagnostic or therapeutic radiation other than diagnostic X-rays and radiotherapy addressed in RISK MANAGEMENT PROCESS as: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
12.4.6	RISKS associated with diagnostic or therapeutic acoustic pressure addressed in RISK MANAGEMENT: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
13	HAZARDOUS SITUATIONS AND FAULT CONDITIONS		Pass
13.1	Specific HAZARDOUS SITUATIONS		Pass
13.1.2	Emissions, deformation of ENCLOSURE or exceeding maximum temperature		Pass
	– Emission of flames, molten metal, poisonous or ignitable substance in hazardous quantities did not occur		Pass
	– Deformation of ENCLOSURE impairing compliance with 15.3.1 did not occur		N/A
	– Temperatures of APPLIED PARTS did not exceed allowable values in Table 24:		N/A
	– Temperatures of ME EQUIPMENT parts that are not APPLIED PARTS likely to be touched did not exceed values in Table 23:		N/A
	–Allowable values for “other components and materials” in Table 22 times 1.5 minus 12.5 °C were not exceeded		Pass
	Limits for windings in Tables 26, 27, and 31 not exceeded		Pass
	Table 22 not exceeded in all other cases		Pass
	After tests of this Clause, settings of THERMAL CUT-OUTS and OVER-CURRENT RELEASES did not change sufficiently to affect their safety function		N/A
13.1.3	– limits for LEAKAGE CURRENT in SINGLE FAULT CONDITION did not exceed:	see appended table	Pass
	– voltage limits for ACCESSIBLE PARTS including APPLIED PARTS did not exceed:	see appended table 13.2	N/A
13. 2	SINGLE FAULT CONDITIONS		Pass

Clause	Requirement + Test	Result - Remark	Verdict
13.2.1	During the application of the SINGLE FAULT CONDITIONS listed in 13.2.2 to 13.2.13 (inclusive), the NORMAL CONDITIONS identified in 8.1 a) also applied in the least favourable combination		Pass
	ME EQUIPMENT complied with 13.2.2 -13.2.12:	See appended Table 13.2	Pass
	RISK MANAGEMENT FILE includes and assessment of RISKS associated with leakage of liquid in a SINGLE FAULT CONDITION: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	RISK MANAGEMENT FILE defines the appropriate test conditions:		N/A
13.2.13	ME EQUIPMENT remained safe after tests of 13.2.13.2 to 13.2.13.4, and cooling down to within 3 °C of the temperature in the test environment	No heating elements or motors used	N/A
	ME EQUIPMENT examined for compliance or appropriate tests such as dielectric strength of motor insulation according to 8.8.3 conducted		N/A
	For insulation of thermoplastic materials relied upon as a MEANS OF PROTECTION, the ball-pressure test specified in 8.8.4.1 a) performed at a temperature 25 °C higher than temperature of insulation measured during tests of 13.2.13.2 to 13.2.13.4 (inclusive).		N/A
13.2.13.2	ME EQUIPMENT with heating elements		N/A
	a 1) thermostatically controlled ME EQUIPMENT with heating elements for building-in, r for unattended operation, or with a capacitor not protected by a fuse connected in parallel with THERMOSTAT contacts met tests	No heating elements provided	N/A
	a 2) ME EQUIPMENT with heating elements RATED for non-CONTINUOUS OPERATION met tests		N/A
	a 3) other ME EQUIPMENT with heating elements met test		N/A
	When more than one test was applicable to same ME EQUIPMENT, tests performed consecutively		N/A
	Heating period stopped when a heating element or an intentionally weak part of a non-SELF-RESETTING THERMAL CUT-OUT ruptured, or current interrupted before THERMAL STABILITY without possibility of automatic restoration		N/A
	Test repeated on a second sample when interruption was due to rupture of a heating element or an intentionally weak part		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Both samples met 13.1.2, and open circuiting of a heating element or an intentionally weak part in second sample not considered a failure by itself		N/A
	b) ME EQUIPMENT with heating elements without adequate heat discharge, and supply voltage set at 90 or 110 % of RATED supply voltage, least favourable of the two (V):		N/A
	Operating period stopped when a non-SELF-RESETTING THERMAL CUT-OUT operated, or current interrupted without possibility of automatic restoration before THERMAL STABILITY		N/A
	ME EQUIPMENT switched off as soon as THERMAL STABILITY established and allowed to cool to room temperature when current not interrupted		N/A
	Test duration was equal to RATED operating time for non-CONTINUOUS OPERATION		N/A
	c) Heating parts of ME EQUIPMENT tested with ME EQUIPMENT operated in NORMAL CONDITION at 110 % of RATED supply voltage and as in 11.1, and		N/A
	1) Controls limiting temperature in NORMAL CONDITION disabled, except THERMAL CUT-OUTS		N/A
	2) When more than one control provided, they were disabled in turn		N/A
	3) ME EQUIPMENT operated at RATED DUTY CYCLE until THERMAL STABILITY achieved, regardless of RATED operating time		N/A
13.2.13.3	ME EQUIPMENT with motors		N/A
	a 1) For the motor part of the ME EQUIPMENT, compliance checked by tests of 13.2.8- 13.2.10, 13.2.13.3 b), 13.2.13.3 c), and 13.2.13.4, as applicable	No motors	N/A
	To determine compliance with 13.2.9 and 13.2.10 motors in circuits running at 42.4 V peak a.c./ 60 V d.c. or less are covered with a single layer of cheesecloth which did not ignite during the test		N/A
	a 2) Tests on ME EQUIPMENT containing heating parts conducted at prescribed voltage with motor & heating parts operated simultaneously to produce the least favourable condition		N/A
	a 3) Tests performed consecutively when more tests were applicable to the same ME EQUIPMENT		N/A
	b) Motor met running overload protection test of this clause when:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	1) it is intended to be remotely or automatically controlled by a single control device with no redundant protection, or		N/A
	2) it is likely to be subjected to CONTINUOUS OPERATION while unattended		N/A
	Motor winding temperature determined during each steady period and maximum value did not exceed Table 27 (Insulation Class, Maximum temperature measured °C):		N/A
	Motor removed from ME EQUIPMENT and tested separately when load could not be changed in appropriate steps		N/A
	Running overload test for motors operating at 42.4 V peak a.c./60 V d.c. or less performed only when examination and review of design indicated possibility of an overload		N/A
	Test not conducted where electronic drive circuits maintained a substantially constant drive current		N/A
	Test not conducted based on other justifications (justification):		N/A
	c) ME EQUIPMENT with 3-phase motors operated with normal load, connected to a 3-phase SUPPLY MAINS with one phase disconnected, and periods of operation per 13.2.10		N/A
13.2.13.4	ME EQUIPMENT RATED for NON-CONTINUOUS OPERATION		N/A
	ME EQUIPMENT (other than HAND-HELD) operated under normal load and at RATED voltage or at upper limit of RATED voltage range until increase in temperature was ≤ 5 °C in one hour, or a protective device operated	Unit intended for continuous operation	N/A
	When a load-reducing device operated in NORMAL USE, test continued with ME EQUIPMENT running idle		N/A
	Motor winding temperatures did not exceed values in 13.2.10:		N/A
	Insulation Class:		-
	Maximum temperature measured (°C):		-
14	PROGRAMMABLE ELECTRICAL MEDICAL SYSTEMS (PEMS)		N/A
14.1	Requirements of this clause not applied to PESS when it provided no BASIC SAFETY or ESSENTIAL PERFORMANCE, or	No PESS or PEMS	N/A
	- when application of RISK MANAGEMENT showed that failure of PESS does not lead to unacceptable RISK:		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	RISK MANAGEMENT FILE contains an assessment of RISKS associated with the failure of the PESS: (ISO 14971 Cl. 4.2-4.4, 5)		N/A
	Requirements of 14.13 not applied to PEMS intended to be incorporated into an IT NETWORK		N/A
	Software development process for Software Classification applied in accordance with Clause 4.3 of IEC 62304:		N/A
	Software development process applied according to Clause 5 of IEC 62304:		N/A
	Software development process for Software risk management applied according to Clause 7 of IEC 62304:		N/A
	Software development process Configuration Management applied according to Clause 8 of IEC 62304:		N/A
	Software development process for Software Problem Resolution applied according to Clause 9 of IEC 62304:		N/A
14.2	Documents required by Clause 14 reviewed, approved, issued and revised according to a formal document control process:		N/A
14.3	RISK MANAGEMENT plan required by 4.2.2 includes reference to PEMS VALIDATION plan		N/A
14.4	A PEMS DEVELOPMENT LIFE-CYCLE including a set of defined milestones has been documented		N/A
	At each milestone, activities to be completed, and VERIFICATION methods to be applied to activities have been defined		N/A
	Each activity including its inputs and outputs defined, and each milestone identifies RISK MANAGEMENT activities that must be completed before that milestone		N/A
	PEMS DEVELOPMENT LIFE-CYCLE tailored for a specific development by making plans detailing activities, milestones, and schedules		N/A
	PEMS DEVELOPMENT LIFE-CYCLE includes documentation requirements		N/A
14.5	A documented system for problem resolution within and between all phases and activities of PEMS DEVELOPMENT LIFE-CYCLE has been developed and maintained		N/A
14.6	RISK MANAGEMENT PROCESS		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
14.6.1	MANUFACTURER considered HAZARDS associated with software and hardware aspects of PEMS including those associated with the incorporating PEMS into an IT-NETWORK, components of third-party origin, legacy subsystems when compiling list of known or foreseeable HAZARDS:		N/A
	RISK MANAGEMENT FILE includes known or foreseeable HAZARDS associated with software, hardware, incorporation of the PEMS into an IT-NETWORK, components of 3rd party origin and legacy subsystems: (ISO 14971 Cl. 4.3)		N/A
14.6.2	Suitably validated tools and PROCEDURES assuring each RISK CONTROL measure reduces identified RISK(S) satisfactorily provided in addition to PEMS requirements in Clause 4.2.2:		N/A
	RISK MANAGEMENT FILE documents the suitability of tools and procedures to validate each RISK CONTROL measure: (ISO 14971 Cl. 6.1)		N/A
14.7	A documented requirement specification for PEMS and each of its subsystems (e.g. for a PESS) which includes ESSENTIAL PERFORMANCE and RISK CONTROL measures implemented by that system or subsystem: (ISO 14971 Cl. 6.3)		N/A
14.8	An architecture satisfying the requirement is specified for PEMS and each of subsystems: (ISO 14971 Cl. 6.3)		N/A
14.9	Design is broken up into sub systems and descriptive data on design environment documented:		N/A
14.10	A VERIFICATION plan containing the specified information used to verify and document functions implementing BASIC SAFETY, ESSENTIAL PERFORMANCE, or RISK CONTROL measures: (ISO 14971 Cl. 6.3)		N/A
	– milestone(s) when VERIFICATION is to be performed for each function		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– selection and documentation of VERIFICATION strategies, activities, techniques, and appropriate level of independence of the personnel performing the VERIFICATION		N/A
	– selection and utilization of VERIFICATION tools		N/A
	– coverage criteria for VERIFICATION		N/A
	The VERIFICATION performed according to the VERIFICATION plan and results of the VERIFICATION activities documented		N/A
14.11	A PEMS VALIDATION plan containing validation of BASIC SAFETY & ESSENTIAL PERFORMANCE:		N/A
	The PEMS VALIDATION performed according to the PEMS VALIDATION plan with results of PEMS VALIDATION activities and methods used for PEMS VALIDATION documented		N/A
	The person with overall responsibility for PEMS VALIDATION is independent		N/A
	All professional relationships of members of PEMS VALIDATION team with members of design team documented in RISK MANAGEMENT FILE (ISO 14971 Cl. 6.3)		N/A
14.12	Continued validity of previous design documentation assessed under a documented modification/change PROCEDURE		N/A
	Software Classification for Software changes applied in accordance with Clause 4.3 of IEC 62304:		N/A
	Software Process for Software changes applied according to Clause 5 of IEC 62304:		N/A
	RISK MANAGEMENT for Software changes applied according to Clause 7 of IEC 62304:		N/A
	Configuration management of software changes applied per Clause 8 of IEC 62304:		N/A
	Problem resolution for Software changes applied according to Clause 9 of IEC 62304:		N/A
14.13	For PEMS incorporated into an IT-NETWORK not VALIDATED by the PEMS MANUFACTURER, instructions made available for implementing the connection include the following:		N/A
	a) Purpose of the PEMS connection to an IT-NETWORK		N/A
	b) required characteristics of the IT-NETWORK		N/A
	c) required configuration of the IT-NETWORK		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	d) technical specifications of the network connection, including security specifications		N/A
	e) intended information flow between the PEMS, the IT-NETWORK and other devices on the IT-NETWORK, and the intended routing through the IT-NETWORK		N/A
	f) a list of HAZARDOUS SITUATIONS resulting from failure of the IT-NETWORK to provide the characteristics required (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.3)		N/A
	ACCOMPANYING DOCUMENTS for the RESPONSIBLE ORGANIZATION include the following:		N/A
	– statement that connection to IT-NETWORKS including other equipment could result in previously unidentified RISKS TO PATIENTS, OPERATORS or third parties		N/A
	– Notification that the RESPONSIBLE ORGANIZATION should identify, analyse, evaluate and control these RISKS		N/A
	– Notification that changes to the IT-NETWORK could introduce new RISKS that require additional analysis		N/A
	- Changes to the IT-NETWORK include: - changes in network configuration - connection of additional items - disconnection of items - update of equipment - upgrade of equipment		N/A
15	CONSTRUCTION OF ME EQUIPMENT		Pass
15.1	RISKS associated with arrangement of controls and indicators of ME EQUIPMENT addressed through the application of a USABILITY ENGINEERING PROCESS:	Component to be evaluated in the end product	N/E
15.2	Parts of ME EQUIPMENT subject to mechanical wear, electrical, environmental degradation or ageing resulting in unacceptable RISK when unchecked for a long period, are accessible for inspection, replacement, and maintenance		N/A
	Inspection, servicing, replacement, and adjustment of parts of ME EQUIPMENT can easily be done without damage to or interference with adjacent parts or wiring		N/A
15.3	Mechanical strength		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
15.3.1	Mould stress relief, push, impact, drop, and rough handling tests did not result in loss of BASIC SAFETY or ESSENTIAL PERFORMANCE	Component only, to be determined in the end product	N/A
15.3.2	Push test conducted:		N/A
	No damage resulting in an unacceptable RISK sustained		N/A
15.3.3	Impact test conducted:		N/A
	No damage resulting in an unacceptable RISK sustained		N/A
15.3.4	Drop test		N/A
15.3.4.1	Sample of HAND-HELD ME EQUIPMENT, ACCESSORIES and HAND-HELD part with SAFE WORKING LOAD tested:	Component only, to be determined in the end product	N/A
	No unacceptable RISK resulted		N/A
15.3.4.2	Sample of PORTABLE ME EQUIPMENT, ACCESSORIES and PORTABLE part with SAFE WORKING LOAD withstood stress as demonstrated by test:		N/A
	No damage resulting in an unacceptable RISK sustained		N/A
15.3.5	MOBILE ME EQUIPMENT and MOBILE part with SAFE WORKING LOAD and in most adverse condition in NORMAL USE passed Rough Handling tests:		N/A
	No damage resulting in an unacceptable RISK sustained		N/A
15.3.6	Examination of ENCLOSURE made from moulded or formed thermoplastic material indicated that material distortion due to release of internal stresses by moulding or forming operations will not result in an unacceptable RISK		N/A
	Mould-stress relief test conducted by placing one sample of complete ME EQUIPMENT, ENCLOSURE or a portion of larger ENCLOSURE, for 7 hours in a circulating air oven at 10°C over the max temperature measured on ENCLOSURE in 11.1.3, but no less than 70 °C:		N/A
	No damage resulting in an unacceptable RISK		N/A
15.3.7	INTENDED USE, EXPECTED SERVICE LIFE, and conditions for transport and storage were taken into consideration for selection and treatment of materials used in construction of ME EQUIPMENT		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Based on review of EQUIPMENT, ACCOMPANYING DOCUMENTS, specifications and processing of materials, and MANUFACTURER'S relevant tests or calculations, corrosion, ageing, mechanical wear, degradation of biological materials due to bacteria, plants, animals and the like, will not result in an unacceptable RISK		N/A
15.4	ME EQUIPMENT components and general assembly		N/A
15.4.1	Incorrect connection of accessible connectors, removable without a TOOL, prevented where an unacceptable RISK exists,: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)	Component only, to be determined in the end product	N/A
	a) Plugs for connection of PATIENT leads or PATIENT cables cannot be connected to outlets on same ME EQUIPMENT intended for other functions,:	No patient leads or cables	N/A
	b) Medical gas connections on ME EQUIPMENT for different gases to be operated in NORMAL USE are not interchangeable inspection:	No gas connections	N/A
15.4.2	Temperature and overload control devices		N/A
15.4.2.1	a) THERMAL CUT-OUTS and OVER-CURRENT RELEASES with automatic resetting not used in ME EQUIPMENT when their use could lead to a HAZARDOUS SITUATION: (ISO 14971 Cl. 4.2-4.4, 5)	No such parts	N/A
	b) THERMAL CUT-OUTS with a safety function with reset by a soldering not fitted in ME EQUIPMENT	No such parts	N/A
	c) An additional independent non-SELF-RESETTING THERMAL CUT-OUT is provided: (ISO 14971 Cl. 4.2-4.4)	No such parts	N/A
	d) Operation of THERMAL CUT-OUT or OVER CURRENT RELEASE doesn't result in a HAZARDOUS SITUATION or loss of ESSENTIAL PERFORMANCE: (ISO 14971 Cl. 4.2-4.4)	No such parts	N/A
	e) Capacitors or other spark-suppression devices not connected between contacts of THERMAL CUT-OUTS	No such parts	N/A
	f) Use of THERMAL CUT-OUTS or OVER-CURRENT RELEASES do not affect safety as verified by following tests:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Positive temperature coefficient devices) complied with IEC 60730-1: 2010, Clauses 15, 17, J.15, and J.17		N/A
	- ME EQUIPMENT containing THERMAL CUT-OUTS and OVER-CURRENT RELEASES operated under the conditions of Clause 13:		N/A
	- SELF-RESETTING THERMAL CUT-OUTS and OVER-CURRENT RELEASES including circuits performing equivalent functions Certified according to appropriate standards		N/A
	- In the absence of Certification in accordance with IEC standards, SELF-RESETTING THERMAL CUT-OUTS and OVER-CURRENT RELEASES including circuits performing equivalent functions operated 200 times		N/A
	Manual reset THERMAL CUT-OUTS and OVER-CURRENT RELEASES Certified in accordance with appropriate IEC standards		N/A
	manual reset THERMAL CUT-OUTS and OVER-CURRENT RELEASES operated 10 times		N/A
	Thermal protective devices tested separately from ME EQUIPMENT when engineering judgment indicated test results would not be impacted		N/A
	g) Protective device incorporating a fluid filled container with heating means, operated when heater switched on with container empty and prevented an unacceptable RISK due to overheating		N/A
	h) ME EQUIPMENT with tubular heating elements provided with protection against overheating: (ISO 14971 Cl. 4.2-4.4)		N/A
15.4.2.2	Temperature settings clearly indicated when means provided to vary setting of THERMOSTATS		N/A
15.4.3	Batteries		N/A
15.4.3.1	Battery housings provided with ventilation: (ISO 14971 Cl. 4.2-4.4)	No batteries	N/A
	Battery compartments designed to prevent accidental short circuiting		N/A
15.4.3.2	Means provided to prevent incorrect connection of polarity:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with incorrect connection or replacement of batteries: (ISO 14971 Cl. 4.2-4.4)		N/A
15.4.3.3	Overcharging of battery prevented by virtue of design:		N/A
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with overcharging of batteries: (ISO 14971 Cl. 4.2-4.4)		N/A
15.4.3.4	Primary lithium batteries comply with IEC 80086-4		N/A
	Secondary lithium batteries comply with IEC 62133		N/A
15.4.3.5	A properly RATED protective device provided within INTERNAL ELECTRICAL POWER SOURCE to protect against fire:		N/A
	Protective device has adequate breaking capacity		N/A
	Justification for OVER-CURRENT RELEASES or FUSE exclusion is documented		N/A
	Short circuit test between the positive and negative poles of an INTERNAL ELECTRICAL POWER SOURCE between the output and protective device(s) omitted where 2 MOOPs provided, or		N/A
	Short circuit between the positive and negative poles of an INTERNAL ELECTRICAL POWER SOURCE between the output and protective device(s) does not result in any HAZARDOUS SITUATION		N/A
15.4.4	Indicator lights provided to indicate ME EQUIPMENT is ready for:	No indicators	N/A
	An additional indicator light provided on ME EQUIPMENT with a stand-by state or a warm-up state exceeding 15 s,		N/A
	Indicator lights provided on ME EQUIPMENT incorporating non-luminous heaters to indicate heaters are operational		N/A
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with the use of indicator lights for EQUIPMENT incorporating non-luminous heaters: (ISO 14971 Cl. 4.2-4.4)		N/A
	Requirement not applied to heated stylus-pens for recording purposes		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Indicator lights provided on ME EQUIPMENT to indicate an output exists		N/A
	Colours of indicator lights complied with 7.8.1		N/A
	Charging mode visibly indicated		N/A
15.4.5	RISKS associated with pre-set controls addressed in RISK MANAGEMENT PROCESS: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
15.4.6	Actuating parts of controls of ME EQUIPMENT		N/A
15.4.6.1	a) Actuating parts cannot be pulled off or loosened during NORMAL USE	No such parts	N/A
	b) Controls secured so that the indication of any scale always corresponds to the position of the control		N/A
	c) Incorrect connection prevented by adequate construction when it could be separated without use of a TOOL		N/A
	When torque values per Table 30 applied knobs did not rotate :		N/A
	Tests conducted with no unacceptable RISK :		N/A
15.4.6.2	Stops on rotating/ movable parts of controls are of adequate mechanical strength:		N/A
	Torque values in Table 30 applied:		N/A
	No unexpected change of the controlled parameter when tested:		N/A
15.4.7	Cord-connected HAND-HELD and foot-operated control devices		N/A
15.4.7.1	a) HAND-HELD control devices of ME EQUIPMENT complied with 15.3.4.1	No such parts	N/A
	b) Foot-operated control device supported an actuating force of 1350 N in its position of NORMAL USE with no damage:		N/A
15.4.7.2	Control device of HAND-HELD and foot-operated control devices turned in all possible abnormal positions and placed on a flat surface:		N/A
	No unacceptable RISK caused by changing control setting when accidentally placed in an abnormal position		N/A
15.4.7.3	a) Foot-operated control device is at least rated IPX1:		N/A
	b) ENCLOSURE of foot operated control devices containing electrical circuits is at least IPX6:		N/A
15.4.8	Aluminum wires less than 16 mm2 in cross-sectional area are not used	No such parts	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
15.4.9	a) Oil container in PORTABLE ME EQUIPMENT allows for expansion of oil and is adequately sealed	No such parts	N/A
	b) Oil containers in MOBILE ME EQUIPMENT sealed to prevent loss of oil during transport		N/A
	A pressure-release device operating during NORMAL USE is provided		N/A
	c) Partially sealed oil-filled ME EQUIPMENT and its parts provided with means for checking the oil level to detect leakage		N/A
	ME EQUIPMENT and technical description examined, and manual tests conducted to confirm compliance with above requirements		N/A
15.5	MAINS SUPPLY TRANSFORMERS OF ME EQUIPMENT and transformers providing separation in accordance with 8.5		Pass
15.5.1	Overheating		Pass
15.5.1.1	Transformers of ME EQUIPMENT are protected against overheating:	See appended Tables 15.5.1.2 and 15.5.1.3	Pass
	During tests, windings did not open, no HAZARDOUS SITUATION occurred, and maximum temperatures of windings did not exceed values in Table 31		Pass
	Dielectric strength test conducted after short circuit and overload tests:	see appended table 15.5.1.2 and 15.5.1.3	Pass
15.5.1.2	Transformer output winding short circuited, and test continued until protective device operated or THERMAL STABILITY achieved:	See appended Table 15.5.1.2	Pass
	Short circuit applied directly across output windings		Pass
15.5.1.3	Multiple overload tests conducted on windings:	See appended Table 15.5.1.3	Pass
15.5.2	Transformers operating at a frequency above 1kHz tested according to clause 8.8.3:		Pass
	Transformer windings provided with adequate insulation		Pass
	Dielectric strength tests were conducted :	Only short-circuit of the secondary winding insulation considered to create potential hazardous situation. Test not considered necessary based upon short-circuit of transformer secondary, use of triple insulated wire, and dielectric strength test from Primary to Core and Primary to Secondary	N/A
15.5.3	Transformers forming MEANS OF PROTECTION as required by 8.5 comply with:	See appended Table 8.10	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	- Means provided to prevent displacement of end turns		Pass
	- protective earth screens with a single turn have insulated overlap		N/A
	- Exit of wires form internal windings of toroid transformers protected with double sleeving		N/A
	- insulation between primary and secondary windings complies with 8.8.2		Pass
	- CREEPAGE DISTANCES and AIR CLEARANCE comply with 8.9.4		Pass
16	ME SYSTEMS		N/A
16.1	After installation or subsequent modification, ME SYSTEM didn’t result in an unacceptable RISK	Component, to be determined in the end product	N/A
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with installation and modification of an ME SYSTEM: (ISO 14971 Cl. 4.2-4.4, 5)		N/A
	Only HAZARDS arising from combining various equipment to form a ME SYSTEM considered		N/A
	– ME SYSTEM provides the level of safety within the PATIENT ENVIRONMENT equivalent to ME EQUIPMENT complying with this standard		N/A
	– ME SYSTEM provides the level of safety outside PATIENT ENVIRONMENT equivalent to equipment complying with their respective IEC or ISO safety standards		N/A
	– tests performed in NORMAL CONDITION, except as specified		N/A
	– tests performed under operating conditions specified by MANUFACTURER of ME SYSTEM		N/A
	Safety tests previously conducted on individual equipment of ME SYSTEM according to relevant standards not repeated		N/A
	RISK MANAGEMENT methods used by MANUFACTURER of an ME SYSTEM reconfigurable by RESPONSIBLE ORGANIZATION or OPERATOR		N/A
	Non-ME EQUIPMENT used in ME SYSTEM complied with applicable IEC or ISO safety standards		N/A
	Equipment relying only on BASIC INSULATION for protection against electric shock not used in ME SYSTEM		N/A
16.2	ACCOMPANYING DOCUMENTS of an ME SYSTEM		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Documents containing all data necessary for ME SYSTEM to be used as intended by MANUFACTURER including a contact address accompany ME SYSTEM or modified ME SYSTEM		N/A
	ACCOMPANYING DOCUMENTS regarded as a part of ME SYSTEM		N/A
	a) ACCOMPANYING DOCUMENTS provided for each item of ME EQUIPMENT supplied by MANUFACTURER		N/A
	b) ACCOMPANYING DOCUMENTS provided for each item of non-ME EQUIPMENT supplied by MANUFACTURER		N/A
	c) the required information is provided:		N/A
	– specifications, instructions for use as intended by MANUFACTURER, and a list of all items forming the ME SYSTEM		N/A
	– instructions for installation, assembly, and modification of ME SYSTEM to ensure continued compliance with this standard		N/A
	– instructions for cleaning and, when applicable, disinfecting and sterilizing each item of equipment or equipment part forming part of the ME SYSTEM		N/A
	– additional safety measures to be applied during installation of ME SYSTEM		N/A
	– identification of parts of ME SYSTEM suitable for use within the PATIENT ENVIRONMENT		N/A
	– additional measures to be applied during preventive maintenance		N/A
	– a warning forbidding placement of MULTIPLE SOCKET-OUTLET, when provided and it is a separate item, on the floor		N/A
	– a warning indicating an additional MULTIPLE SOCKET-OUTLET or extension cord not to be connected to ME SYSTEM		N/A
	– a warning to connect only items that have been specified as part of ME SYSTEM or specified as being compatible with ME SYSTEM		N/A
	– maximum permissible load for any MULTIPLE SOCKET-OUTLET(S) used with ME SYSTEM		N/A
	– instructions indicating MULTIPLE SOCKET-OUTLETS provided with the ME SYSTEM to be used only for supplying power to equipment intended to form part of ME SYSTEM		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– an explanation indicating RISKS of connecting non-ME EQUIPMENT supplied as a part of ME SYSTEM directly to wall outlet when non-ME EQUIPMENT is intended to be supplied via a MULTIPLE SOCKET-OUTLET with a separating transformer		N/A
	– an explanation indicating RISKS of connecting any equipment supplied as a part of ME SYSTEM to MULTIPLE SOCKET-OUTLET		N/A
	– permissible environmental conditions of use for ME SYSTEM including conditions for transport and storage		N/A
	– instructions to OPERATOR not to, simultaneously, touch parts referred to in 16.4 and PATIENT		N/A
	d) the following instructions provided for use by RESPONSIBLE ORGANIZATION:		N/A
	– adjustment, cleaning, sterilization, and disinfection PROCEDURES		N/A
	– assembly of ME SYSTEMS and modifications during actual service life shall be evaluated based on the requirements of this standard		N/A
16.3	Instructions for use of ME EQUIPMENT intended to receive its power from other equipment in an ME SYSTEM, describe the other equipment to ensure compliance with these requirements		N/A
	Transient currents restricted to allowable levels for the specified IPS or UPS:		N/A
	Technical description and installation instructions specify the actual transient currents where an IPS or UPS is not specified		N/A
16.4	Parts of non-ME EQUIPMENT in PATIENT ENVIRONMENT subject to contact by OPERATOR during maintenance, calibration, after removal of covers, connectors operated at a voltage ≤ voltage in 8.4.2 c)		N/A
16.5	Safety measures incorporating a SEPARATION DEVICE applied when FUNCTIONAL CONNECTION between ME EQUIPMENT and other items of an ME SYSTEM or other systems can cause allowable values of LEAKAGE CURRENT to exceed		N/A
	SEPARATION DEVICE has dielectric strength, CREEPAGE and CLEARANCES required for one MEANS OF OPERATOR PROTECTION		N/A
	WORKING VOLTAGE was highest voltage across SEPARATION DEVICE during a fault condition, but not less than MAXIMUM MAINS VOLTAGE (V):		N/A
16.6	LEAKAGE CURRENTS		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
16.6.1	TOUCH CURRENT in NORMAL CONDITION did not exceed 100 μA:		N/A
	TOUCH CURRENT did not exceed 500 μA in event of interruption of any non-PERMANENTLY INSTALLED PROTECTIVE EARTH CONDUCTOR:		N/A
16.6.2	Current in PROTECTIVE EARTH CONDUCTOR of MULTIPLE SOCKET-OUTLET didn't exceed 5 mA:		N/A
16.6.3	PATIENT LEAKAGE CURRENT and total PATIENT LEAKAGE CURRENT of ME SYSTEM in NORMAL CONDITION did not exceed values:		N/A
16.7	ME SYSTEM complied with applicable requirements of Clause 9:		N/A
16.8	Interruption and restoration power to the ME SYSTEM or any part of the ME SYSTEM did not result in a loss of BASIC SAFETY or ESSENTIAL PERFORMANCE		N/A
16.9	ME SYSTEM connections and wiring		N/A
16.9.1	Incorrect connection of accessible connectors, removable without a TOOL, prevented where unacceptable RISK can result:		N/A
	RISK MANAGEMENT FILE includes an assessment of RISKS associated with plugs for connection of PATIENT leads or cables likely to be located in the PATIENT ENVIRONMENT: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/A
	– Plugs for connection of PATIENT leads or PATIENT cables could not be connected to other outlets of the same ME SYSTEM likely to be located in PATIENT ENVIRONMENT, except when examination of connectors and interchanging them proved no unacceptable RISK results		N/A
	Medical gas connections on the ME SYSTEM for different gasses operated in NORMAL USE are not interchangeable		N/A
16.9.2	MAINS PARTS, components and layout		N/A
16.9.2.1	a) – MULTIPLE SOCKET-OUTLET only allows connection using a TOOL, or		N/A
	– MULTIPLE SOCKET-OUTLET is of a type that cannot accept MAINS PLUGS of any of the kinds specified in IEC/TR 60083, or		N/A
	– MULTIPLE SOCKET-OUTLET is supplied via a separating transformer		N/A
	b) – MULTIPLE SOCKET-OUTLET marked with safety sign 2 of Table D.2 visible in NORMAL USE, and		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– marked either individually or in combinations, with the maximum allowed continuous output in amperes or volt-amperes, or		N/A
	– marked to indicate the equipment or equipment parts it may safely be attached to		N/A
	– MULTIPLE SOCKET-OUTLET is a separate item or an integral part of ME EQUIPMENT or non-ME EQUIPMENT		N/A
	c) MULTIPLE SOCKET-OUTLET complied with IEC 60884-1 and the following requirements:		N/A
	– CREEPAGE and CLEARANCES complied with 8.9		N/A
	– It is CLASS I, and PROTECTIVE EARTH CONDUCTOR is connected to earthing contacts in socket-outlets		N/A
	– PROTECTIVE EARTH TERMINALS and PROTECTIVE EARTH CONNECTIONS comply with 8.6:		N/A
	– ENCLOSURE complied with 8.4.2 d)		N/A
	– MAINS TERMINAL DEVICES and wiring complied with 8.11.4, when applicable		N/A
	– RATINGS of components are not in conflict with conditions of use:		N/A
	– Electrical terminals and connectors of MULTIPLE SOCKET-OUTLETS prevent incorrect connection of accessible connectors removable without a TOOL		N/A
	– POWER SUPPLY CORD complied with 8.11.3		N/A
	d) Additional requirements applied when MULTIPLE SOCKET-OUTLET combined with a separating transformer:		N/A
	– Separating transformer complied with this standard or IEC 61558-2-1,:		N/A
	– Separating transformer is CLASS I		N/A
	– Degree of protection against ingress of water specified as in IEC 60529		N/A
	– Separating transformer assembly marked according to 7.2 and 7.3		N/A
	– MULTIPLE SOCKET-OUTLET permanently connected to separating transformer, or socket-outlet of separating transformer assembly cannot accept MAINS PLUGS as identified in IEC/TR 60083		N/A
16.9.2.2	The impedance between the protective earth pin in the MAINS PLUG and any part that is PROTECTIVELY EARTHED did not exceed 200 mΩ		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Removal of any single item of equipment in ME SYSTEM will not interrupt the protective earthing of any other part without simultaneous disconnection of electrical supply to that part		N/A
	Additional PROTECTIVE EARTH CONDUCTORS can be detachable only by use of a TOOL		N/A
16.9.2.3	Conductors connecting different items within an ME SYSTEM protected against mechanical damage		N/A
17	ELECTROMAGNETIC COMPATIBILITY OF ME EQUIPMENT AND ME SYSTEMS		N/E
	RISKS associated confirmed by review:	Not evaluated by UL LLC	N/E
	– electromagnetic phenomena at locations where ME EQUIPMENT or ME SYSTEM is to be used as stated in ACCOMPANYING DOCUMENTS:		N/E
	RISK MANAGEMENT FILE includes an assessment of risks associated with the introduction of electromagnetic phenomena into the environment by the EQUIPMENT or SYSTEM: (ISO 14971 Cl. 4.2-4.4, 5, 6.2-6.5)		N/E
	– introduction of electromagnetic phenomena into environment by ME EQUIPMENT or ME SYSTEM that might degrade performance of other devices, electrical equipment, and systems		N/E
ANNEX G	PROTECTION AGAINST HAZARDS OF IGNITION OF FLAMMABLE ANESTHETIC MIXTURES		N/A
G.2	Locations and basic requirements		N/A
G.2.1	Parts of CATEGORY APG ME EQUIPMENT in which a FLAMMABLE ANAESTHETIC MIXTURE WITH AIR occurs are CATEGORY AP or APG ME EQUIPMENT and complied with G.3, G.4, and G.5	No intended for use with flammable anesthetic mixtures	N/A
G.2.2	FLAMMABLE AESTHETIC MIXTURE WITH		N/A
G.2.3	A FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN or NITROUS OXIDE		N/A
G.2.4	ME EQUIPMENT specified for use with FLAMMABLE AESTHETIC MIXTURE WITH AIR complied with G.4 and G.5		N/A
G.2.5	ME EQUIPMENT or parts thereof for use with FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE comply with G.4 and G.6		N/A
	ME EQUIPMENT in G.2.4 to G.2.5 met appropriate tests of G.3-G.5 conducted after tests of 11.6.6 and 11.6.7		N/A
G.3	Marking, ACCOMPANYING DOCUMENTS		N/A
G.3.1	CATEGORY APG ME EQUIPMENT prominently marked “APG” (symbol 23 in Table D.1):		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Length of green-coloured band is □ 4 cm, and size of marking is as large as possible for particular case		N/A
	When above marking not possible, relevant information included in instructions for use:		N/A
	Marking complied with tests and criteria of 7.1.2 and 7.1.3		N/A
G.3.2	CATEGORY AP ME EQUIPMENT prominently marked, with a green-coloured circle “AP” (symbol 22 in Table D.1):		N/A
	Marking is as large as possible for the particular case		N/A
	When above marking not possible, the relevant information included in instructions for use:		N/A
	Marking complied with tests and criteria of 7.1.2 and 7.1.3		N/A
G.3.3	The marking placed on major part of ME EQUIPMENT for CATEGORY AP or APG parts		N/A
G.3.4	ACCOMPANYING DOCUMENTS contain an indication enabling the RESPONSIBLE ORGANIZATION to distinguish between CATEGORY AP and APG parts		N/A
G.3.5	Marking clearly indicates which parts are CATEGORY AP or APG when only certain ME EQUIPMENT parts are CATEGORY AP or APG		N/A
G.4	Common requirements for CATEGORY AP and CATEGORY APG ME EQUIPMENT		N/A
G.4.1	a) CREEPAGE and CLEARANCES are according to Table 12 for one MEANS OF PATIENT PROTECTION		N/A
	b) Connections protected against accidental disconnection		N/A
	c) CATEGORY AP and APG not provided with a DETACHABLE POWER SUPPLY CORD,		N/A
G.4.2	Construction details		N/A
	a) Opening of an ENCLOSURE protecting against penetration of gases or vapours into ME EQUIPMENT or its parts possible only with a TOOL		N/A
	b) ENCLOSURE complies with:		N/A
	– no openings on top covers of ENCLOSURE,		N/A
	– openings in side-covers prevented penetration of a solid cylindrical test rod		N/A
	– openings in base plates prevented penetration of a solid cylindrical test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Short circuiting conductor(s) to a conductive part (when no explosive gasses) did not result in loss of integrity of the part, an unacceptable temperature, or any HAZARDOUS SITUATION		N/A
G.4.3	a) Electrostatic charges prevented on CATEGORY AP and APG ME EQUIPMENT by a combination of appropriate measures		N/A
	– Use of antistatic materials with a limited electrical resistance:		N/A
	– Provision of electrically conductive paths from ME EQUIPMENT or its parts to a conductive floor, protective earth or potential equalization system, or via wheels to an antistatic floor		N/A
	b) Electrical resistance limits of aesthetic tubing, mattresses/ pads, castor tires & other antistatic material comply with ISO 2882:		N/A
G.4.4	Corona cannot be produced by components or parts of ME EQUIPMENT operating at more than 2000 V a.c. or 2400 V d.c. and not included in ENCLOSURES complying with G.5.4 or G.5.5		N/A
G.5	Requirements and tests for CATEGORY AP ME EQUIPMENT, parts and components		N/A
G.5.1	ME EQUIPMENT, its parts or components do not ignite FLAMMABLE AESTHETIC MIXTURES WITH AIR under NORMAL USE and CONDITIONS based on compliance with G.5.2 to G.5.5		N/A
	Alternatively, ME EQUIPMENT, its parts, and components complied with requirements of IEC 60079-0 for pressurized ENCLOSURES (IEC 60079-2); for sand-filled ENCLOSURES, IEC 60079-5; or for oil immersed equipment, IEC 60079-6; and with this standard excluding G.5.2 to G.5.5:		N/A
G.5.2	Temperature limits:		N/A
G.5.3	ME EQUIPMENT, its parts, and components producing sparks in NORMAL USE and CONDITION complied with temperature requirements of G.5.2, and Umax and Imax occurring in their circuits, and complied as follows:		N/A
	Measured Umax ≤ UzR with IzR as in Fig. G.1:		N/A
	Measured Umax ≤ Uc with Cmax as in Fig. G.2 :		N/A
	Measured Imax ≤ IzR with UzR as in Fig G.1 :		N/A
	Measured Imax ≤ IzL with Lmax and a Umax ≤ 24 V as in Fig G.3:		N/A
	– Combinations of currents and corresponding voltages within the limitations IzR.UzR ≤ 50 W extrapolated from Fig G.1		N/A
	No extrapolation made for voltages above 42 V		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	– Combinations of capacitances and corresponding voltages within limitations of C/2U2 ≤ 1.2 mJ extrapolated from Fig G.2		N/A
	No extrapolation made for voltages above 242V		N/A
	Umax determined using actual resistance R		N/A
	– Combinations of currents and corresponding inductances within limitations L/2I2 ≤ 0.3 mJ extrapolated from Fig G.3		N/A
	No extrapolation made for inductances larger than 900 mH		N/A
	– Umax was the highest supply voltage occurring in circuit under investigation with sparking contact open		N/A
	– Imax was the highest current flowing in circuit under investigation with sparking contact closed		N/A
	– Cmax and Lmax taken as values occurring at the component under investigation producing sparks		N/A
	– Peak value considered when a.c. supplied		N/A
	– An equivalent circuit calculated to determine equivalent max capacitance, inductance, and equivalent Umax and Imax, either as d.c. or a.c. peak values in case of a complicated circuit:		N/A
	Temperature measurements made according to 11.1, and Umax, Imax, R, Lmax , and Cmax determined with application of Figs G.1-G.3:		N/A
	Alternatively, compliance was verified by examination of design data:		N/A
G.5.4	External ventilation with internal overpressure		N/A
	ME EQUIPMENT, its parts, and components enclosed in an ENCLOSURE with external ventilation by means of internal overpressure complied with the following requirements:		N/A
	a) FLAMMABLE AESTHETIC MIXTURES WITH AIR t removed by ventilation before EQUIPMENT energized,		N/A
	b) Overpressure inside ENCLOSURE was 75 Pa, min., in NORMAL CONDITION (Pa):		N/A
	Overpressure maintained at the site of potential ignition		N/A
	ME EQUIPMENT could be energized only after the required minimum overpressure was present long enough to ventilate the ENCLOSURE		N/A
	ME EQUIPMENT energized at will or repeatedly when overpressure was continuously present		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Ignition sources de-energized automatically when during operation overpressure dropped below 50 Pa (Pa):		N/A
	d) External surface of ENCLOSURE did not exceed 150 °C in 25 °C:		N/A
G.5.5	ENCLOSURES with restricted breathing		N/A
	ME EQUIPMENT, its parts, and components enclosed in an ENCLOSURE with restricted breathing complied with the following:		N/A
	a) A FLAMMABLE AESTHETIC MIXTURE WITH AIR did not form inside ENCLOSURE with restricted breathing		N/A
	b) Gasket or sealing material used to maintain tightness complied with aging test B-b of IEC 60068-2-2, Clause 15, at 70 °C ± 2 °C and 96 h:		N/A
	c) Gas-tightness of ENCLOSURE containing inlets for flexible cords maintained		N/A
	Cords are fitted with adequate anchorages to limit stresses as determined by test		N/A
	Overpressure not reduced below 200 Pa		N/A
	Tests waived when examination of ENCLOSURE indicated it is completely sealed or gas-tight without a doubt (100 % degree of certainty)		N/A
	Operating temperature of external surface of ENCLOSURE was ≤ 150 °C in 25 °C (°C):		N/A
	Steady state operating temperature of ENCLOSURE also measured (°C):		N/A
G.6	CATEGORY APG ME EQUIPMENT, parts and components thereof		N/A
G.6.1	ME EQUIPMENT, its parts, and components did not ignite FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE under NORMAL USE and SINGLE FAULT CONDITION		N/A
	ME EQUIPMENT, its parts, and components not complying with G.6.3 subjected to a CONTINUOUS OPERATION test		N/A
G.6.2	Parts and components of CATEGORY APG ME EQUIPMENT operating in a FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE supplied from a source isolated from earth by insulation equal to one MEANS OF PATIENT PROTECTION and from electrical parts by insulation twice the MEANS OF PATIENT PROTECTION:		N/A
G.6.3	Test of G.6.1 waived when the following requirements were met in NORMAL USE and under NORMAL and SINGLE FAULT CONDITIONS:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	a) no sparks produced and temperatures did not exceed 90 °C, or		N/A
	b) a temperature limit of 90 °C not exceeded, sparks produced in NORMAL USE, and SINGLE FAULT CONDITIONS, except Umax and Imax occurring in their circuits complied with requirements, taking Cmax and Lmax into consideration:		N/A
	Measured Umax ≤ UzR with IzR as in Fig. G.4 :		N/A
	Measured Umax ≤ UzC with Cmax as in Fig. G.5:		N/A
	Measured Imax ≤ IzR with UzR as in Fig G.4 :		N/A
	Measured Imax ≤ IzL with Lmax and a Umax ≤ 24 V as in Fig G.6 :		N/A
	– Extrapolation from Figs G.4, G.5, and G.6 was limited to areas indicated		N/A
	– Umax was the highest no-load voltage occurring in the circuit under investigation, taking into consideration mains voltage variations as in 4.10		N/A
	– Imax was the highest current flowing in the circuit under investigation, taking into account MAINS VOLTAGE variations as in 4.10		N/A
	– Cmax and Lmax are values occurring in relevant circuit		N/A
	– Umax additionally determined with actual resistance R when equivalent resistance R in Fig G.5 was less than 8000 Ω		N/A
	– Peak value considered when a.c. supplied		N/A
	– An equivalent circuit calculated to determine max capacitance, inductance, and Umax and Imax, either as d.c. or a.c. peak values in case of a complicated circuit :		N/A
	– When energy produced in an inductance or capacitance in a circuit is limited by voltage or current-limiting devices, two independent components applied, to obtain the required limitation even when a first fault (short or open circuit) in one of these components		N/A
	- requirement not applied to transformers complying with this standard		N/A
	- requirement not applied to wire-wound current-limiting resistors provided with a protection against unwinding of the wire in case of rupture		N/A
	Compliance verified by examination of CATEGORY APG ME EQUIPMENT, parts, and components , or		N/A
	Temperature measurements made in accordance with 11.1:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- or Umax, Imax, R, Lmax and Cmax determined together with application of Figs G.4-G.6:		N/A
	Alternatively, compliance verified by comparison with design data:		N/A
G.6.4	ME EQUIPMENT, its parts, and components heating a FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE provided with a non-SELF-RESETTING THERMAL CUT-OUT and complied with 15.4.2.1:		N/A
	Current-carrying part of heating element is not in direct contact with FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE		N/A
G.7	Test apparatus for flammable mixtures according to this Clause and Fig G.7		N/A
ANNEX L	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		Pass
L.1	BASIC, SUPPLEMENTARY, DOUBLE, and REINFORCED INSULATION in wound components without interleaved insulation complied with this Annex	Evaluated as part of the component evaluation	Pass
L.2	Wire construction		Pass
	Overlap of layers when wire is insulated with two or more spirally wrapped layers of tape is adequate to ensure continued overlap during manufacture of wound component	Extruded type only	Pass
	Layers of spirally wrapped wire insulation are sufficiently secured to maintain the overlap		Pass
L.3	Type Test		Pass
	The wire subjected to tests of L.3.1 to L.3.4 at a temperature and a relative humidity specified	Evaluated as part of component evaluation	Pass
	Temperature (°C):		-
	Humidity (%):		-
L.3.1	Dielectric strength		Pass
	Dielectric strength test of Clause 8.8.3 for the appropriate type and number of MOP(s) conducted with no breakdown:	Evaluated as part of the component evaluation	Pass
	– 3000 V for BASIC and SUPPLEMENTARY INSULATION (V):		N/A
	– 6000 V for REINFORCED INSULATION (V):	Evaluated as part of the component evaluation	Pass
L.3.2	Flexibility and adherence		Pass
	Sample subjected to flexibility and adherence	Evaluated as part of the component evaluation	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
	Sample examined per IEC 60851-3: 1997, cl. 5.1.1.4, followed by dielectric test of cl. 8.8.3, with no breakdown		Pass
	Test voltage was at least the voltage in Tables 6 and 7 but not less than the following:		Pass
	– 1500 V for BASIC and SUPPLEMENTARY INSULATION (V):		N/A
	– 3000 V for REINFORCED INSULATION (V):	Evaluated as part of the component evaluation	Pass
	Tension applied to wire during winding on mandrel calculated from the wire diameter equivalent to 118 MPa ± 11.8 Mpa:		Pass
L.3.3	Heat Shock		Pass
	Sample subjected to heat shock test 9 of IEC 60851-6:1996, followed by dielectric strength test of clause 8.8.3		Pass
	Test voltage was at least the voltage in Tables 6 and 7, but not less than the following:		Pass
	– 1500 V for BASIC and SUPPLEMENTARY INSULATION (V):		N/A
	– 3000 V for REINFORCED INSULATION (V):	Evaluated as part of the component evaluation	Pass
	Oven temperature based on Table L.2 (°C):		-
	Mandrel diameter and tension applied as in clause L.3.2, (MPa; N/mm2):	Evaluated as part of component evaluation	Pass
	Dielectric strength test conducted at room temperature after removal from the oven	Evaluated as part of component evaluation	Pass
L.3.4	Retention of electric strength after bending		Pass
	Five samples prepared as in L.3.2 subjected to dielectric strength and bending tests		Pass
	Test voltage was at least the voltage in Tables 6 and 7, but not less than the following:		Pass
	– 1500 V for BASIC and SUPPLEMENTARY INSULATION (V):		N/A
	– 3000 V for REINFORCED INSULATION (V):	Evaluated as part of the component evaluation	Pass
	Test voltage applied between the shot and conductor		Pass
	Mandrel diameter and tension applied as in L.3.2, (MPa; N/mm2):	Evaluated as part of component evaluation	Pass
L.4	Tests during manufacture		Pass
L.4.1	Production line dielectric strength tests done by the manufacture per L.4.2 and L.4.3:	See attached manufacturer’s routine testing verification	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
L.4.2	Test voltage for routine testing (100 % testing) is at least the voltage in Tables 6 and 7 but not less than the following:		Pass
	– 1500 V r.m.s. or 2100 V peak for BASIC and SUPPLEMENTARY INSULATION (V):		N/A
	– 3000 V r.m.s. or 4200 V peak for REINFORCED INSULATION (V):	Evaluated as part of the component evaluation	Pass
L.4.3	Sampling tests conducted using twisted pair samples (IEC 60851-5:1996, clause 4.4.1):	See manufacturer's routine testing verification	Pass
	Minimum breakdown test voltage at least twice the voltage in Tables 6 and 7 but not less than:		Pass
	– 3000 V r.m.s. or 4200 V peak for BASIC and SUPPLEMENTARY INSULATION:		N/A
	– 6000 V r.m.s. or 8400 V peak for REINFORCED INSULATION:	See manufacturer's routine testing verification	Pass

4.2.2	**RM RESULTS TABLE: General requirements for RISK MANAGEMENT**			**Pass**
Clause of ISO 14971	**Document Ref. in RMF (Document No. paragraph/clause, version)**		**Result - Remarks**	**Verdict**
	General process	**Particular Medical Device**		
3.1	XP-04-04 Rev B (1.0)	-	Risk Management Process (excluding production and post-production)	Pass
3.2	XP-04-04 Rev B (1.1)	-	Adequate Resources	Pass
3.2	XP-04-04 Rev B (1.1)	-	Adequate Resources	Pass
3.2	XP-04-04 Rev B (1.1)	-	Adequate Resources	Pass
3.3	-	XP-18-01 Rev B (4.0)	Qualification of personnel	Pass
3.4a	-	XP-04-04 Rev B (1.1), XP-04-02 Rev D, XP-04-04 Rev B (1.1)		Pass
3.4b	-	XP-04-02 Rev D (Fig 1), XP-04-04 Rev B (1.1)		Pass
3.4c	-	XP-04-02 Rev D (FMEA report), XP-04-04 Rev B (1.1)		Pass
3.4d	-	XP-04-02 Rev D (FMEA report), XP-04-04 Rev B (1.1)		Pass
3.4e	-	XP-04-02 Rev D (III), XP-04-04 Rev B (1.1)		Pass
3.5	-	XP-04-02 Rev D, Analysis Checklist		Pass
4.1	-	XP-04-02 Rev D (FMEA Report)		Pass
4.2	-	XP-04-02 Rev D (FMEA Report)		Pass
4.3	-	XP-04-02 Rev D (FMEA Report)		Pass
4.4	-	XP-04-04 Rev B (1.2), XP-04-04 Rev B (1.3), TRF, XP-04-02 Rev D (FMEA Report), XP-04-04 Rev B		Pass
5	-	TRF, XP-04-02 Rev D (FMEA Report), XP-04-04 Rev B, XP-14-02 Rev G (CAR)		Pass
6.2	-	XP-04-01 Rev M, XP-04-02 Rev D, XP-04-04 Rev B, XP-09-01 Rev B, XP-14-02 Rev G		Pass
6.3	-	XP-14-02 Rev G (CAR), XP-05-02 Rev B		Pass
6.4	-	XP-04-01 Rev M (5.6), XP-04-04 Rev B		Pass
6.5	-	XP-09-01 Rev B, XP-14-02 Rev G		Pass
6.6a	-	XP-05-02 Rev B, ECR/ECO		Pass
6.6b	-	XP-05-02 Rev B, ECR/ECO		Pass
6.7	-	XP-04-04 Rev B, XP-04-01 Rev M, XP-16-01 Rev E		Pass
7	-	XP-04-01 Rev M, XP-16-01 Rev E		Pass
8	-	XP-04-04 Rev B, XP-04-02 Rev D, XP-05-02 Rev B, XP-14-02 Rev G		Pass
Supplementary Information: Document Ref should be with regards to the policy/procedure documents and documents containing device specific output.				

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Clause	Requirement + Test	Result - Remark	Verdict

4.3	**TABLE: ESSENTIAL PERFORMANCE**		**Pass**
List of ESSENTIAL PERFORMANCE functions	**MANUFACTURER'S document number reference or reference from this standard or collateral or particular standard(s)**	**Remarks**	
Unit to provide 2MOPP between Primary and Secondary	10018357 Rev A		
Unit to provide 1MOPP between Primary and Ground	10018357 Rev A		
Unit to provide 1MOPP between Secondary and Ground	10018357 Rev A		
Supplementary Information: ESSENTIAL PERFORMANCE is performance, the absence or degradation of which, would result in an unacceptable risk.			

Test Tables

4.11	TABLE: Input Test				Pass
Operating Conditions	Voltage (V)	Frequency (Hz)	Current (A)	Power (W or VA)	Power Factor (ϕ)
CHD250PS12: 12V/20.8A, 5V/1A	90	60	3.0	272.0	1.004
CHD250PS12: 12V/20.8A, 5V/1A	100	60	2.7	271.0	1.004
CHD250PS12: 12V/20.8A, 5V/1A	240	60	1.2	266.0	0.931
CHD250PS12: 12V/20.8A, 5V/1A	264	60	1.2	266.0	0.819
CHD250PS12: 12V/20.8A, 5V/1A	90	50	3.0	272.0	1.007
CHD250PS12: 12V/20.8A, 5V/1A	100	50	2.7	271.0	0.996
CHD250PS12: 12V/20.8A, 5V/1A	240	50	1.2	265.0	0.936
CHD250PS12: 12V/20.8A, 5V/1A	264	50	1.3	267.0	0.760
CHD250PS24: 24V/10.4A, 5V/1A	90	60	3.01	270.0	0.997
CHD250PS24: 24V/10.4A, 5V/1A	100	60	2.7	269.0	0.996
CHD250PS24: 24V/10.4A, 5V/1A	240	60	1.17	264.0	0.940
CHD250PS24: 24V/10.4A, 5V/1A	264	60	1.21	264.0	0.826
CHD250PS24: 24V/10.4A, 5V/1A	90	50	3.01	270.0	0.997
CHD250PS24: 24V/10.4A, 5V/1A	100	50	2.69	269.0	1.000
CHD250PS24: 24V/10.4A, 5V/1A	240	50	1.17	264.0	0.940
CHD250PS24: 24V/10.4A, 5V/1A	264	50	1.27	265.0	0.790
CHD250PS48:48V/5.2A, 5V/1A	90	60	3.0	270.0	0.997
CHD250PS48:48V/5.2A, 5V/1A	100	60	2.7	269.0	0.993
CHD250PS48:48V/5.2A, 5V/1A	240	60	1.2	264.0	0.932
CHD250PS48:48V/5.2A, 5V/1A	264	60	1.2	265.0	0.810
CHD250PS48:48V/5.2A, 5V/1A	90	50	3.0	271.0	0.997
CHD250PS48:48V/5.2A, 5V/1A	100	50	3.0	271.0	0.897
CHD250PS48:48V/5.2A, 5V/1A	240	50	1.2	265.0	0.936
CHD250PS48:48V/5.2A, 5V/1A	264	50	1.3	266.0	0.781

Test Tables

Supplementary Information: Data above may include voltage measurement takes outside the device ratings for reference purposes. These will be indicated by an N/A Verdict because they are not required to meet the below criteria per this clause.

5.9.2	TABLE: Determination of ACCESSIBLE parts	N/A
Location	**Determination method (NOTE1)**	**Comments**
Supplementary Information: NOTE 1 - The determination methods are: visual; rigid test finger; jointed test finger; test hook. NOTE To Lab: This test is performed in order to identify which parts of the device are accessible. Results of this test will determine which parts of the device can be accessed by the operator, patient, maintenance personnel, etc. and will be used as points for testing within clause 8.4 of the standard.		

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Test Tables

7.1.2	TABLE: Legibility of Marking		N/A
Markings tested	Ambient Illuminance (lX)	Remarks	

Supplementary Information:

Ambient illuminance derived from following recommended illumination levels for use in interior lighting design. See Annex A, cl. 7.1.2.

- 100 lx to 200 lx is recommended for working spaces where visual tasks are performed only occasionally;
- 500 lx to 1000 lx is recommended for visual tasks of small size or reading medium-pencil handwriting;
- 1,000 lx to 2,000 lx is recommended for visual tasks of low contrast or very small size: e.g., reading handwriting in hard-pencil on poor-quality paper

Any text or symbols that are excluded from this test are either identified in the table above or specified here: .

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Test Tables

7.1.3	TABLE: Durability of marking test		N/A
Characteristics of the Marking Label tested:		Remarks	
Material (composition) of Marking Label :			
Ink/other printing material or process :			
Method of application of ink to the Label :			
Other :			
Marking Label Certification:			
		T-w= , T-m= ,T-i=	

Supplementary Information:

T-w = Time with distilled water
T-m =Time with methylated spirit
T-i = Time with isopropyl alcohol
For testing purposes, a methylated spirit is considered to be any commercially available denatured alcohol containing a minimum 96% ethanol by volume.

8.4.2	TABLE: Working Voltage / Power Measurement					Pass
Test supply voltage/frequency (V/Hz)[1]:						240V /60
Location From/To	Measured Values					Remarks
	Vrms	Vpk or Vdc	Peak-to-peak ripple	Power W/VA	Energy (J)	
A: Line to Neutral	242	344	-			12V/20.8A, 5V/1A
B: Line to Ground	242	344	-			12V/20.8A, 5V/1A
C: Pri to Secondary	292	478	-			12V/20.8A, 5V/1A
D: Second. to Gnd	-	12 Vdc	0.180			12V/20.8A, 5V/1A
T1 Pin 1 to 6	226	268	-			12V/20.8A, 5V/1A

Test Tables

T1 Pin 9 to 11	12	15	-			12V/20.8A, 5V/1A
T1 Pin 10 to 12	12	15	-			12V/20.8A, 5V/1A
T1 Pin 13 to 15	13	14	-			12V/20.8A, 5V/1A
T1 Pin 14 to 16	13	15	-			12V/20.8A, 5V/1A
T1 Pin 1 to 9	186	390	-			12V/20.8A, 5V/1A
T1 Pin 1 to 10	186	392				12V/20.8A, 5V/1A
T1 Pin 1 to 11	188	392				12V/20.8A, 5V/1A
T1 Pin 1 to 12	186	392				12V/20.8A, 5V/1A
T1 Pin 1 to 13	186	392				12V/20.8A, 5V/1A
T1 Pin 1 to 14	186	392				12V/20.8A, 5V/1A
T1 Pin 1 to 15	188	391				12V/20.8A, 5V/1A
T1 Pin 1 to 16	186	396				12V/20.8A, 5V/1A
T1 Pin 6 to 9	289	475				12V/20.8A, 5V/1A
T1 Pin 6 to 10	171	453				12V/20.8A, 5V/1A
T1 Pin 6 to 11	171	396				12V/20.8A, 5V/1A
T1 Pin 6 to 12	280	453				12V/20.8A, 5V/1A
T1 Pin 6 to 13	273	453				12V/20.8A, 5V/1A
T1 Pin 6 to14	282	466				12V/20.8A, 5V/1A
T1 Pin 6 to 15	264	441				12V/20.8A, 5V/1A
T1 Pin 6 to 16	292	478				12V/20.8A, 5V/1A
T2 Pin 1 to 2	1	9				12V/20.8A, 5V/1A
T2 Pin 3 to 4	2	11				12V/20.8A, 5V/1A
T2 Pin 1 to 3	168	260				12V/20.8A, 5V/1A
T2 Pin 1 to 4	167	258				12V/20.8A, 5V/1A
T2 Pin 2 to 3	94	258				12V/20.8A, 5V/1A
T2 Pin 2 to 4	167	257				12V/20.8A, 5V/1A

Test Tables

T3 Pin 1 to 2	1	9				12V/20.8A, 5V/1A
T3 Pin 3 to 4	0.74	4				12V/20.8A, 5V/1A
T3 Pin 1 to 3	68	323				12V/20.8A, 5V/1A
T3 Pin 1 to 4	70	324				12V/20.8A, 5V/1A
T3 Pin 2 to 3	131	323				12V/20.8A, 5V/1A
T3 Pin 2 to 4	119	323				12V/20.8A, 5V/1A
T1-A Pin 1 to 2-SB	25	78				12V/20.8A, 5V/1A
T1-B Pin 3 to 4-SB	100	468				12V/20.8A, 5V/1A
T1-C Pin 1 to 2-SB	6	33				12V/20.8A, 5V/1A
T1-A Pin 1 to 1-SB	165	284				12V/20.8A, 5V/1A
T1-A Pin 1 to 2-SB	167	284				12V/20.8A, 5V/1A
T1 Pin 2 to 1-SB	158	272				12V/20.8A, 5V/1A
T1-A Pin 2 to 2-SB	181	312				12V/20.8A, 5V/1A
T1-A Pin 3 to 1-SB	172	324				12V/20.8A, 5V/1A
T1-A Pin 3 to 2-SB	175	328				12V/20.8A, 5V/1A
T1-A Pin 4 to 1-SB	180	308				12V/20.8A, 5V/1A
T1-A Pin 4 to 2-SB	128	224				12V/20.8A, 5V/1A
OPT1 Pin 1 to 2	162	283				12V/20.8A, 5V/1A
OPT1 Pin 3 to 4	169	292				12V/20.8A, 5V/1A
OPT2 Pin 1 to 2	165	288				12V/20.8A, 5V/1A
OPT2 Pin 3 to 4	143	252				12V/20.8A, 5V/1A
OPT3 Pin 1 to 2	130	240				12V/20.8A, 5V/1A
OPT3 Pin 3 to 4	146	268				12V/20.8A, 5V/1A
OPT4 Pin 1 to 2	147	263				12V/20.8A, 5V/1A
OPT4 Pin 3 to 4	168	284				12V/20.8A, 5V/1A
A: Line to Neutral	242	344				24V/10.4, 5V/1A

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Test Tables

B: Line to Ground	242	344				24V/10.4, 5V/1A
D: Second. to Gnd	-	24 Vdc				24V/10.4, 5V/1A
T1 Pin 1 to 6	218	252				24V/10.4, 5V/1A
T1 Pin 3 to 7	28	33				24V/10.4, 5V/1A
T1 Pin 9 to 11	24	28				24V/10.4, 5V/1A
T1 Pin 10 to 12	24	28				24V/10.4, 5V/1A
T1 Pin 13 to 15	12	15				24V/10.4, 5V/1A
T1 Pin 14 to 16	12	15				24V/10.4, 5V/1A
T1 Pin 1 to 9	164	380				24V/10.4, 5V/1A
T1 Pin 1 to 10	150	336				24V/10.4, 5V/1A
T1 Pin 1 to 11	156	354				24V/10.4, 5V/1A
T1 Pin 1 to 12	156	354				24V/10.4, 5V/1A
T1 Pin 1 to 13	149	340				24V/10.4, 5V/1A
T1 Pin 1 to 14	150	336				24V/10.4, 5V/1A
T1 Pin 1 to 15	151	352				24V/10.4, 5V/1A
T1 Pin 1 to 16	161	368				24V/10.4, 5V/1A
T1 Pin 6 to 9	126	244				24V/10.4, 5V/1A
T1 Pin 6 to 10	127	252				24V/10.4, 5V/1A
T1 Pin 6 to 11	126	244				24V/10.4, 5V/1A
T1 Pin 6 to 12	126	244				24V/10.4, 5V/1A
T1 Pin 6 to 13	127	252				24V/10.4, 5V/1A
T1 Pin 6 to14	126	244				24V/10.4, 5V/1A
T1 Pin 6 to 15	126	252				24V/10.4, 5V/1A
T1 Pin 6 to 16	126	244				24V/10.4, 5V/1A

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

T2 Pin 1 to 2	1	9				24V/10.4, 5V/1A
T2 Pin 3 to 4	2	11				24V/10.4, 5V/1A
T2 Pin 1 to 3	168	260				24V/10.4, 5V/1A
T2 Pin 1 to 4	167	258				24V/10.4, 5V/1A
T2 Pin 2 to 3	94	258				24V/10.4, 5V/1A
T2 Pin 2 to 4	167	257				24V/10.4, 5V/1A
T3 Pin 1 to 2	1	9				24V/10.4, 5V/1A
T3 Pin 3 to 4	0.74	4				24V/10.4, 5V/1A
T3 Pin 1 to 3	68	323				24V/10.4, 5V/1A
T3 Pin 1 to 4	70	324				24V/10.4, 5V/1A
T3 Pin 2 to 3	131	323				24V/10.4, 5V/1A
T3 Pin 2 to 4	119	323				24V/10.4, 5V/1A
T1-A Pin 1 to 2-SB	25	78				24V/10.4, 5V/1A
T1-B Pin 3 to 4-SB	100	468				24V/10.4, 5V/1A
T1-C Pin 1 to 2-SB	6	33				24V/10.4, 5V/1A
T1-A Pin 1 to 1-SB	165	284				24V/10.4, 5V/1A
T1-A Pin 1 to 2-SB	167	284				24V/10.4, 5V/1A
T1 Pin 2 to 1-SB	158	272				24V/10.4, 5V/1A
T1-A Pin 2 to 2-SB	181	312				24V/10.4, 5V/1A
T1-A Pin 3 to 1-SB	172	324				24V/10.4, 5V/1A
T1-A Pin 3 to 2-SB	175	328				24V/10.4, 5V/1A
T1-A Pin 4 to 1-SB	180	308				24V/10.4, 5V/1A
T1-A Pin 4 to 2-SB	128	224				24V/10.4, 5V/1A
OPT1 Pin 1 to 2	162	283				24V/10.4, 5V/1A

Test Tables

OPT1 Pin 3 to 4	169	292				24V/10.4, 5V/1A
OPT2 Pin 1 to 2	165	288				24V/10.4, 5V/1A
OPT2 Pin 3 to 4	143	252				24V/10.4, 5V/1A
OPT3 Pin 1 to 2	130	240				24V/10.4, 5V/1A
OPT3 Pin 3 to 4	146	268				24V/10.4, 5V/1A
OPT4 Pin 1 to 2	147	263				24V/10.4, 5V/1A
OPT4 Pin 3 to 4	168	284				24V/10.4, 5V/1A
A: Line to Neutral	242	344				48V/5.2A, 5V/1A
B: Line to Ground	242	344				48V/5.2A, 5V/1A
D: Second. to Gnd	-	48 Vdc				48V/5.2A, 5V/1A
T1 Pin 1 to 6	215	316				48V/5.2A, 5V/1A
T1 Pin 3 to 7	27	35				48V/5.2A, 5V/1A
T1 Pin 9 to 11	47	57				48V/5.2A, 5V/1A
T1 Pin 10 to 12	47	62				48V/5.2A, 5V/1A
T1 Pin 13 to 15	12	21				48V/5.2A, 5V/1A
T1 Pin 14 to 16	12	16				48V/5.2A, 5V/1A
T1 Pin 1 to 9	169	388				48V/5.2A, 5V/1A
T1 Pin 1 to 10	144	328				48V/5.2A, 5V/1A
T1 Pin 1 to 11	156	364				48V/5.2A, 5V/1A
T1 Pin 1 to 12	156	364				48V/5.2A, 5V/1A
T1 Pin 1 to 13	143	320				48V/5.2A, 5V/1A
T1 Pin 1 to 14	170	384				48V/5.2A, 5V/1A
T1 Pin 1 to 15	146	324				48V/5.2A, 5V/1A
T1 Pin 1 to 16	167	380				48V/5.2A, 5V/1A

Test Tables

T1 Pin 6 to 9	127	256				48V/5.2A, 5V/1A
T1 Pin 6 to 10	128	260				48V/5.2A, 5V/1A
T1 Pin 6 to 11	126	248				48V/5.2A, 5V/1A
T1 Pin 6 to 12	126	248				48V/5.2A, 5V/1A
T1 Pin 6 to 13	129	272				48V/5.2A, 5V/1A
T1 Pin 6 to14	127	264				48V/5.2A, 5V/1A
T1 Pin 6 to 15	128	264				48V/5.2A, 5V/1A
T1 Pin 6 to 16	127	252				48V/5.2A, 5V/1A
T2 Pin 1 to 2	1	9				48V/5.2A, 5V/1A
T2 Pin 3 to 4	2	11				48V/5.2A, 5V/1A
T2 Pin 1 to 3	168	260				48V/5.2A, 5V/1A
T2 Pin 1 to 4	167	258				48V/5.2A, 5V/1A
T2 Pin 2 to 3	94	258				48V/5.2A, 5V/1A
T2 Pin 2 to 4	167	257				48V/5.2A, 5V/1A
T3 Pin 1 to 2	1	9				48V/5.2A, 5V/1A
T3 Pin 3 to 4	0.7	5				48V/5.2A, 5V/1A
T3 Pin 1 to 3	68	323				48V/5.2A, 5V/1A
T3 Pin 1 to 4	70	324				48V/5.2A, 5V/1A
T3 Pin 2 to 3	131	323				48V/5.2A, 5V/1A
T3 Pin 2 to 4	119	323				48V/5.2A, 5V/1A
T1-A Pin 1 to 2-SB	25	78				48V/5.2A, 5V/1A
T1-B Pin 3 to 4-SB	100	468				48V/5.2A, 5V/1A
T1-C Pin 1 to 2-SB	6	33				48V/5.2A, 5V/1A
T1-A Pin 1 to 1-SB	165	284				48V/5.2A, 5V/1A

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Test Tables

T1-A Pin 1 to 2-SB	167	284				48V/5.2A, 5V/1A
T1 Pin 2 to 1-SB	158	272				48V/5.2A, 5V/1A
T1-A Pin 2 to 2-SB	181	312				48V/5.2A, 5V/1A
T1-A Pin 3 to 1-SB	172	324				48V/5.2A, 5V/1A
T1-A Pin 3 to 2-SB	175	328				48V/5.2A, 5V/1A
T1-A Pin 4 to 1-SB	180	308				48V/5.2A, 5V/1A
T1-A Pin 4 to 2-SB	128	224				48V/5.2A, 5V/1A
OPT1 Pin 1 to 2	162	283				48V/5.2A, 5V/1A
OPT1 Pin 3 to 4	169	292				48V/5.2A, 5V/1A
OPT2 Pin 1 to 2	165	288				48V/5.2A, 5V/1A
OPT2 Pin 3 to 4	143	252				48V/5.2A, 5V/1A
OPT3 Pin 1 to 2	130	240				48V/5.2A, 5V/1A
OPT3 Pin 3 to 4	146	268				48V/5.2A, 5V/1A
OPT4 Pin 1 to 2	147	263				48V/5.2A, 5V/1A
OPT4 Pin 3 to 4	168	284				48V/5.2A, 5V/1A

Supplementary Information:

1. The input supply voltage to the ME EQUIPMENTTT was the RATED voltage or the voltage within the RATED voltage range which results in the highest measured value. See clause 8.5.4.
2. If the d.c. peak-to-peak ripple > 10%, waveform considered as a.c. See clause 8.4.2.2.

Test Tables

8.4.3	TABLE: ME Equipment for connection to a power source by a plug - measurement of voltage or calculation of stored charge 1 s after disconnection of plug from mains supply									Pass
Maximum allowable voltage (V):								**60**		
Voltage measured (V)										
Voltage Measured Between:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Line pins 1 and 2	0	0	0	0	0	0	0	0	0	0
Pin 1 and earth pin	0	0	0	0	0	0	2	0	0	0
Pin 2 and earth pin	0	0	0	0	6	0	0	0	4	0
Line pin 1 and enclosure	4	2	0	0	4	2	0	0	0	0
Line pin 2 and enclosure	0	0	0	0	0	0	0	0	0	0
Maximum allowable stored charge when measured voltage exceeded 60 v (µc):								**45**		
Calculated stored charge (µC)										
Voltage Measured Between:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Line pins 1 and 2										
Pin 1 and earth pin										
Pin 2 and earth pin										
Line pin 1 and enclosure										
Line pin 2 and enclosure										

Supplementary Information:

The values were calculated using the capacitance and voltage measurements in the formula Q =C*V where C is the capacitance, V is the voltage and the units of Q are Coulombs (in table 8.4.3b the values are to be expressed in micro Coulombs).
If more than 10 measurements are needed, include the additional measurements in the Remarks column.

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Test Tables

8.4.4	TABLE: Internal capacitive circuits - measurement of residual voltage or calculation of the stored charge in capacitive circuits (i.e., accessible capacitors or circuit parts) after de-energizing ME EQUIPMENT		N/A
Maximum allowable residual voltage (V):		60 V	
Maximum allowable stored charge when residual voltage exceeded 60 V:		45 µC	
Description of the capacitive circuit (i.e., accessible capacitor or circuit parts)	Measured residual voltage (V)	Calculated stored charge (µC)	Remarks
Supplementary Information: None			

Test Tables

8.5.5.1a	TABLE: defibrillation-proof applied parts - measurement of hazardous electrical energies				N/A
Test Condition: Figs. 9 & 10	Measurement made on accessible part	Applied part with test voltage	Test voltage polarity	Measured voltage between Y1 and Y2 (mV)	Remarks
	SIPs/SOPs ______		Normal/Reverse	XX/XX	
	Metal foil at base of equipment		Normal/Reverse	XX/XX	
	Unearthed Accessible Part____________		Normal/Reverse	XX/XX	
	Foil in contact with non-conductive Enclosure Part____________		Normal/Reverse	XX/XX	
	Patient Connections of other Applied Parts ____		Normal/Reverse	XX/XX	
Supplementary Information:					
None					

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Test Tables

8.5.5.1b	TABLE: defibrillation-proof applied parts - verification of recovery time			N/A
Applied part with test voltage	Test voltage polarity	Recovery time from documents (s)	Measured recovery time (s)	Remarks
	Normal/Reverse			
	Normal/Reverse			
	Normal/Reverse			
	Normal/Reverse			
	Normal/Reverse			
Supplementary Information: None				

Test Tables

8.5.5.2	TABLE: DEFIBRILLATION-PROOF APPLIED PARTS or PATIENT CONNECTIONS of DEFIBRILLATION-PROOF APPLIED PARTS - Energy reduction test - measurement of Energy delivered to a 100 Ω load		N/A
Test Voltage applied to	Measured Energy E1 (mJ)	Measured Energy E2 (mJ)	Energy E1 as % of E2 (%)
PATIENT CONNECTION 1 or APPLIED PART with PATIENT CONNECTIONS 2, 3, and 4 of the same APPLIED PART connected to earth			
PATIENT CONNECTION 2 or APPLIED PART with PATIENT CONNECTIONS 1, 3, and 4 of the same APPLIED PART connected to earth			
PATIENT CONNECTION 3 or APPLIED PART with PATIENT CONNECTIONS 1, 2, and 4 of the same APPLIED PART connected to earth			
PATIENT CONNECTION 4 or APPLIED PART with PATIENT CONNECTIONS 1, 2, and 3 of the same APPLIED PART connected to earth			
Supplementary Information: E1= Measured energy delivered to 100 Ω with ME Equipment connected; E2= Measured energy delivered to 100 Ω without ME equipment connected.			

Test Tables

8.6.4	TABLE: Impedance and current-carrying capability of PROTECTIVE EARTH			N/A
Type of ME EQUIPMENT & impedance measured between parts	Test current (A) /Duration (s)	Voltage drop measured between parts (V)	Maximum calculated impedance (mΩ)	Maximum allowable impedance (mΩ)
Permanently installed ME equipment, impedance between protective earth terminal and the most remote protectively earthed part				100
ME equipment with an appliance inlet, impedance between earth pin in the appliance inlet and the most remote protectively earthed part				100
ME equipment with a non-detachable power supply cord, impedance between the protective earth pin in the mains plug and the most remote protectively earthed part				200

Supplementary Information:

1 In accordance with Subclause 8.6.4a) (25 A or 1.5 x Ratings) (Note: CEC in Canada requires minimum 40 A for 2 min)
2 In accordance with Subclause 8.6.4a) (R = V / I)
3 See 8.6.4b for exceptions

ME equipment with a DETACHABLE SUPPLY CORD supplied or specified by the manufacturer is tested with the cord supplied or specified. When a DETACHABLE POWER SUPPLY CORD is neither supplied nor specified, testing shall be carried out using a 3m long cord of appropriate cross sectional area based on 8.11.3.3. and table 17. [60601-1: 2005 + AM1]

Alternatively, d.c. may be used for this test. [60601-1: 2005 + AM1]

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

8.7	TABLE: leakage current				Pass
Type of leakage current and test condition (including single faults)		Supply voltage (V)	Supply frequency (Hz)	Measured max. value (µA)	Remarks
13 - Earth (PE & FE) Leakage Current (NC)		264	60	174.8	
13 - Earth (PE & FE) Leakage Current (SFC)		264	60	345.3	
14 - Touch Leakage Current (NC)		N/A	N/A	0.0	
14 - Touch Leakage Current (SFC)		N/A	N/A	0.0	
15 - Patient Leakage Current (NC)		N/A	N/A	0.0	
15 - Patient Leakage Current (SFC)		N/A	N/A	0.0	
16 - Patient Leakage Current (Voltage on AP) (NC)		-	-	0.0	N/A - No NC Tests
16 - Patient Leakage Current (Voltage on AP) (SFC)		N/A	N/A	0.0	
17 - Patient Leakage Current (Voltage on SIP/SOP) (NC)		N/A	N/A	0.0	
17 - Patient Leakage Current (Voltage on SIP/SOP) (SFC)		N/A	N/A	0.0	
18 - Patient Leakage Current (Voltage on Accessible Part) (NC)		-	-	0.0	N/A - No NC Tests
18 - Patient Leakage Current (Voltage on Accessible Part) (SFC)		N/A	N/A	0.0	
19 - Patient Auxiliary Leakage Current (NC)		N/A	N/A	0.0	
19 - Patient Auxiliary Leakage Current (SFC)		N/A	N/A	0.0	
15 & 20 - Total Patient Leakage Current (Same AP Tied Together) (NC)		N/A	N/A	0.0	
15 & 20 - Total Patient Leakage Current (Same AP Tied Together) (SFC)		N/A	N/A	0.0	
16 & 20 - Total Patient Leakage Current (Voltage on AP) (NC)		-	-	0.0	N/A - No NC Tests
16 & 20 - Total Patient Leakage Current (Voltage on AP) (SFC)		N/A	N/A	0.0	
17 & 20 - Total Patient Leakage Current (Voltage on SIP/SOP) (NC)		N/A	N/A	0.0	
17 & 20 - Total Patient Leakage Current (Voltage on SIP/SOP) (SFC)		N/A	N/A	0.0	
18 & 20 - Total Patient Leakage Current (Voltage on Accessible Part) (NC)		-	-	0.0	N/A - No NC Tests
18 & 20 - Total Patient Leakage Current (Voltage on Accessible Part) (SFC)		N/A	N/A	0.0	

Supplementary Information: Test conducted before and after humidity test, worst case results recorded

Note 1: For EARTH LEAKAGE CURRENT see 8.7.3 d) and 8.7.4.5;
Note 2: For TOUCH CURRENT see 8.7.3 c) and 8.7.4.6;
Note 3: For PATIENT LEAKAGE CURRENT SEE 8.7.3.b) and 8.7.4.7
Note 4: Total PATIENT LEAKAGE CURRENT values are only relative to equipment with multiple APPLIED PARTS of the same type. See 8.7.4.7 h). The individual APPLIED PARTS complied with the PATIENT LEAKAGE CURRENT values.
Note 5: In addition to conditions indicated in the Table, tests conducted at operating temperature and after humidity preconditioning of 5.7, EQUIPMENT energized in stand-by condition and fully operating, max rated supply frequency, at 110 % of the max RATED MAINS VOLTAGE, and after relevant tests of Clause 11.6 (i.e., overflow, spillage, leakage, ingress of water and particulate matter, cleaning & disinfection, & sterilization).

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Test Tables

ER - Earth leakage current	A - After humidity conditioning
PE - Protective Earthing	B - Before humidity conditioning
FE - Functional Earthing	1 - Switch closed or set to normal polarity
TC - Touch (leakage) current	0 - Switch open or set to reversed polarity
P - Patient leakage current	NC - Normal condition
PM - Patient leakage current with mains on the applied parts	SFC - Single fault condition
PSM - Patient leakage current with mains on SIP/SOPS	AA - After Abnormal
PA - Patient auxiliary current	S1 - Mains neutral conductor
TPL – Touch Patient Leakage Current	S5 - Mains polarity
IP - Internally powered leakage current	S7 - Protective Earth Conductor
MD - Measuring device	S9 - Mains on patient polarity
Fig. 12 - Refers to Fig. 12 in IEC 60601-1 (8.7.3)	S12 - Grounded patient leads

8.8.3	TABLE: Dielectric strength test of solid insulating materials with safety function - MEANS OF OPERATOR PROTECTION (MOOP) / MEANS OF PATIENT PROTECTION (MOPP)				Pass
Insulation under test (area from insulation diagram)	Insulation Type (1 or 2 MOOP/MOPP)	PEAK WORKING VOLTAGE (U) V peak	PEAK WORKING VOLTAGE (U) V d.c.	A.C. test voltages in V r.m.s1	Dielectric breakdown after 1 minute Yes/No2
Primary to Ground (1)	1 MOPP	344	-	1973 Vrms	No
Primary to Secondary (1)	2 MOPP	475	-	4343 Vrms	No
Secondary to Ground (1)	1 MOPP	-	12 Vdc	1500 Vrms	No
Primary to Ground (2)	1 MOPP	344	-	1973 Vrms	No
Primary to Secondary (2)	2 MOPP	475	-	4343 Vrms	No
Secondary to Ground (2)	1 MOPP	-	12 Vdc	1500 Vrms	No
Primary to Ground (3)	1 MOPP	344	-	1973 Vrms	No
Primary to Secondary (3)	2 MOPP	475	-	4352 Vrms	No
Secondary to Ground (3)	1 MOPP	-	12 Vdc	1500 Vrms	No
Supplementary Information: (1) Test conducted after humidity condition and Test (2) conducted after the abnormals (3) test conducted after C12 Short					
None					

Test Tables

8.8.4.1	TABLE: Resistance to heat - Ball pressure test of thermoplastic parts		Pass
	Allowed impression diameter (mm):	≤ 2 mm	-
	Force (N):	20	-

Part/material	Test temperature (°C)	Impression diameter (mm)
Insulating material supporting insulated Mains Parts		
Conn 3 POS 0.156 CTR HEADER VERT LOCK-Molex 26-60-4030	125	1.12
Transformer Bobbin - Ryton R-4-230BL, 1mm thick	125	0.9

Supplementary Information:

None

8.9.2	TABLE: Short circuiting of each single one of the CREEPAGE DISTANCES and AIR CLEARANCES for insulation in the MAINS PART between parts of opposite polarity in lieu of complying with the required measurements in 8.9.4	N/A

Specific areas of circuits short-circuited and test conditions	Test in lieu of CREEPAGE DISTANCE or AIR CLEARANCE1	HAZARDOUS SITUATION observed (i.e., fire hazard, shock hazard, explosion, discharge of parts, etc.)? Yes/No	Remarks

Supplementary Information:

HAZARDOUS SITUATION DESCRIBED IN 13.1: [60601-1:2005 + am1]

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

8.9.3.2	TABLE: Thermal cycling tests on one sample of insulating compound forming solid insulation between conductive parts			N/A
Part Test	8.9.3.4 - Test duration and temperature for 10 cycles after which the sample was subjected to Humidity Preconditioning per Cl. 5.7	Dielectric test voltage	Dielectric strength test after humidity preconditioning per cl. 5.7 except for 48 h only, Breakdown: Yes/No	Crack or voids in the insulating compound: Yes/No
Solid insulation under test	68 h at T1 ± 2 °C = °C 1			
	1 h at 25 °C ± 2 °C			
	2 h at 0 °C ± 2 °C			
	1 or more h at 25 °C ± 2 °C			
Supplementary Information: 1 T1 = 10 °C above the maximum temperature of relevant part determined per 11.1.1, or 85 °C, the higher of the two. 10 °C not added to T1 when temperature measured by an embedded thermocouple. Used gradual transition from one temperature to another.				

8.9.3.3	TABLE: Thermal cycling tests on one sample of cemented joint with other insulating parts (see 8.9.3.3)			N/A
Part Test	Sample	Each test duration and temperature	Dielectric test voltage	Dielectric strength test, Breakdown: Yes/No
Test Sample #1: Cemented joint under test	1	10 Cycles conducted of the following:		
		1 - 68 h at T1 ± 2 °C = °C1		
		2 - 1 h at 25 °C ± 2 °C		
		3 - 2 h at 0 °C ± 2 °C		
		4 - 1 or more h at 25 °C ± 2 °C		
	2	Humidity Conditioning per 5.7		
	3	Humidity Conditioning per 5.7		
Supplementary Information: 1 T1 = 10 °C above the maximum temperature of relevant part determined per 11.1.1, or 85 °C, the higher of the two. 10 °C not added to T1 when temperature measured by an embedded thermocouple. Used gradual transition from one temperature to another.				

Test Tables

8.10	TABLE: List of critical components				P
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./, Edition	Mark(s) & Certificates of conformity [1]

Supplementary Information:

Refer to Table 8.10 (cont.) at the end of these Test Tables for a list of all critical components associated with this device.

1) An asterisk indicates a mark which assures the agreed level of surveillance. See Licenses and Certificates of Conformity for verification.

8.10 b	TABLE: List of identified components with HIGH INTEGRITY CHARACTERISTICS				N/A
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./, Edition	Mark(s) & Certificates of conformity [1]

Supplementary Information:

Refer to Table 8.10 (cont.) at the end of these Test Tables for a list of all High Integrity components associated with this device.

1) An asterisk indicates a mark which assures the agreed level of surveillance. See Licenses and Certificates of Conformity for verification.

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Test Tables

8.11.3.5	TABLE: Cord anchorages			N/A
Cord under test	Mass of equipment (kg)	Pull (N)	Torque (Nm)	Remarks

Supplementary Information:

From Table 18 of the standard:

1 kg: 30 N Pull, 0.1 Nm Torque
over 1 through 4 kg: 60 N Pull, 0.25 Nm Torque
>4 kg: 100 N Pull, 0.35 Nm Torque

1 kg = 2.205 lbs. 1 lb = 0.454 kg
1 N = 0.225 lbs. Force 1 lb force = 4.448 N
1 Nm = 0.738 ft lbs. Force 1 ft lb force = 1.356 Nm

8.11.3.6	TABLE: Cord guard		N/A
Cord under test	Test mass (kg)	Measured curvature	Remarks
Test method per 3rd ed	-	-	-
Test method per IEC 60335-1	-	-	-
	-	-	

Supplementary Information:

None

Test Tables

9.2.2.2	TABLE: Measurement of gap "s" according to Table 20 (ISO 13852: 1996)			N/A
Part of body	Allowable adult gap1, mm	Measured adult gap, mm	Allowable children gap1, mm	Measured children gap, mm
Body	>500		>500	
Head	>300 or <120		>300 or <60	
Leg	>180		>180	
Foot	>120 or <35		>120 or <25	
Toes	>50		>50	
Arm	>120		>120	
Hand, wrist, fist	>100		>100	
Finger	>25 or <8		>25 or <4	

Supplementary Information:

1 In general, gaps for adults used, except when the device is specifically designed for use with children, values for children applied.

9.2.3.2	TABLE: Over-travel End Stop Test	N/A
ME EQUIPMENT end stop	Test Condition (cycles, load, speed)	Remarks

Supplementary Information:

1 kg = 2.205 lbs. 1 lb = 0.454 kg

Test Tables

9.4.2.1	TABLE: Instability - overbalance in transport position		N/A
ME EQUIPMENT preparation	Test Condition (transport position)	Remarks	
Supplementary Information: 5 ° incline test if a warning notice is present. Otherwise all are subjected to a 10° incline.			

9.4.2.2	TABLE: Instability - overbalance excluding transport position		N/A
ME EQUIPMENT preparation	Test Condition (excluding transport position) Test either 5 ° incline and verify Warning marking or 10 ° incline)	Remarks	
Supplementary Information: 5 ° incline test if a warning notice is present. Otherwise all are subjected to a 10° incline.			

9.4.2.3	TABLE: Instability - overbalance from horizontal and vertical forces		N/A
ME EQUIPMENT preparation	Test Condition (force used, direction of force, weight of equipment, location of force)	Remarks	
Supplementary Information: 5 ° incline test if a warning notice is present. Otherwise all are subjected to a 10° incline.			

Test Tables

9.4.2.4.2	TABLE: Castors and wheels - Force for propulsion	N/A
ME EQUIPMENT preparation	**Test Condition (force location and height)**	**Remarks**
Supplementary Information: None		

9.4.2.4.3	TABLE: Castors and wheels - Movement over a threshold	N/A
ME EQUIPMENT preparation	**Test Condition (speed of movement)**	**Remarks**
Supplementary Information: REMARKS: (Add specific observations here, if any, such as instability equipment damage, loosened parts, etc):		

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Test Tables

9.4.3.1	TABLE: Instability from unwanted lateral movement (including sliding) in transport position		N/A
ME EQUIPMENT preparation	Test Condition (transport position, working load, locking device(s), caster position)	Remarks	
Supplementary Information: None			

9.4.3.2	TABLE: Instability from unwanted lateral movement (including sliding) excluding transport position		N/A
ME EQUIPMENT preparation	Test Condition (working load, locking device(s), caster position, force, force location, force direction)	Remarks	
Supplementary Information: None			

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Test Tables

9.4.4	TABLE: Grips and other handling devices		N/A
Clause and Name of Test	Test Condition	Remarks	
Supplementary Information: None			

9.7.5	TABLE: Pressure vessels					N/A
Hydraulic, Pneumatic or Suitable Media and Test Pressure	Vessel Burst	Permanent Deformation	Leaks	Vessel fluid substance	Remarks	
Supplementary Information: None						

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Test Tables

9.8.3.2	TABLE: PATIENT support/suspension system - Statis forces			N/A
ME EQUIPMENT part or area	Position	Load	Area	Remarks
Supplementary Information: None				

9.8.3.3	TABLE: Support/Suspension System - Dynamic forces due to loading from persons			N/A
ME EQUIPMENT part or area	Position	Safe Working Load	Area	Remarks
Supplementary Information: None				

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Test Tables

10.1.1	TABLE: Measurement of X - radiation		N/A
Maximum allowable radiation pA/kg (µSv/h) (mR/h):			
Surface area under test Surface no./ Description1	Measured Radiation, pA/kg (µSv/h) (mR/h)	Remarks	
Supplementary Information: 1 Measurements made at a distance of 5 cm from any surface to which OPERATOR (other than SERVICE PERSONNEL) can gain access without a TOOL, is deliberately provided with the means of access, or is instructed to enter regardless of whether or not a TOOL is needed to gain access (pA/kg).			

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Test Tables

11.1.1	TABLE: Excessive temperature in ME EQUIPMENT					Pass
Model No.:			See below			
Test ambient (°C):			See below			
Test supply voltage/frequency (V/Hz)4:			See below			
Model No.:	Thermo-couple No.	Thermocouple location3	Max allowable temperature1 from Table 22, 23 or 24 or RM file for APS (°C)	Max measured temperature2, (°C)		Remarks
CHD250PS12: 12V/20.8A (250W) Convection	1	T AMBIENT	50.0	50		Tested at 90Vac, 50Hz; duration:2h
CHD250PS12: 12V/20.8A (250W) Convection	2	FS1 BODY	125.0	103		
CHD250PS12: 12V/20.8A (250W) Convection	3	L1 COIL	130.0	108		
CHD250PS12: 12V/20.8A (250W) Convection	4	L2 COIL	130.0	115		
CHD250PS12: 12V/20.8A (250W) Convection	5	C64 BODY	105.0	88		
CHD250PS12: 12V/20.8A (250W) Convection	6	OPTO 1 BODY	105.0	87		
CHD250PS12: 12V/20.8A (250W) Convection	7	PCB @ TR5,D5	130.0	111		
CHD250PS12: 12V/20.8A (250W) Convection	8	D24 BODY	140.0	120		
CHD250PS12: 12V/20.8A (250W) Convection	9	L4 COIL	130.0	113		
CHD250PS12: 12V/20.8A (250W) Convection	10	L3 COIL	130.0	109		
CHD250PS12: 12V/20.8A (250W) Convection	11	L5 COIL	130.0	111		

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Test Tables

CHD250PS12: 12V/20.8A (250W) Convection	12	PCB @ TR27	130.0	100	
CHD250PS12: 12V/20.8A (250W) Convection	13	T1 COIL	130.0	105	
CHD250PS12: 12V/20.8A (250W) Convection	14	T1 CORE	130.0	98	
CHD250PS12: 12V/20.8A (250W) Convection	15	T2 BODY	130.0	100	
CHD250PS12: 12V/20.8A (250W) Convection	16	T3 BODY	130.0	92	
CHD250PS12: 12V/20.8A (250W) Convection	17	C34 BODY	105.0	97	
CHD250PS12: 12V/20.8A (250W) Convection	18	L9 COIL	130.0	104	
CHD250PS12: 12V/20.8A (250W) Convection	19	PBC @ TR16	130.0	111	
CHD250PS12: 12V/20.8A (250W) Convection	20	CON1 BODY	105.0	76	
CHD250PS12: 12V/20.8A (250W) Convection	1	T AMBIENT	50.0	50	Tested at 100Vac, 50Hz, duration:2h
CHD250PS12: 12V/20.8A (250W) Convection	2	FS1 BODY	125.0	91	
CHD250PS12: 12V/20.8A (250W) Convection	3	L1 COIL	130.0	95	
CHD250PS12: 12V/20.8A (250W) Convection	4	L2 COIL	130.0	104	
CHD250PS12: 12V/20.8A (250W) Convection	5	C64 BODY	105.0	83	
CHD250PS12: 12V/20.8A (250W) Convection	6	OPTO 1 BODY	105.0	85	

Test Tables

CHD250PS12: 12V/20.8A (250W) Convection	7	PCB @ TR5,D5	130.0	105	
CHD250PS12: 12V/20.8A (250W) Convection	8	D24 BODY	140.0	112	
CHD250PS12: 12V/20.8A (250W) Convection	9	L4 COIL	130.0	108	
CHD250PS12: 12V/20.8A (250W) Convection	10	L3 COIL	130.0	104	
CHD250PS12: 12V/20.8A (250W) Convection	11	L5 COIL	130.0	109	
CHD250PS12: 12V/20.8A (250W) Convection	12	PCB @ TR27	130.0	98	
CHD250PS12: 12V/20.8A (250W) Convection	13	T1 COIL	130.0	104	
CHD250PS12: 12V/20.8A (250W) Convection	14	T1 CORE	130.0	94	
CHD250PS12: 12V/20.8A (250W) Convection	15	T2 BODY	130.0	98	
CHD250PS12: 12V/20.8A (250W) Convection	16	T3 BODY	130.0	90	
CHD250PS12: 12V/20.8A (250W) Convection	17	C34 BODY	105.0	96	
CHD250PS12: 12V/20.8A (250W) Convection	18	L9 COIL	130.0	103	
CHD250PS12: 12V/20.8A (250W) Convection	19	PBC @ TR16	130.0	104	
CHD250PS12: 12V/20.8A (250W) Convection	20	CON1 BODY	105.0	71	
CHD250PS12: 12V/20.8A (250W) Convection	1	T AMBIENT	50.0	50	Tested at 240Vac, 50Hz; duration:2h

Test Tables

CHD250PS12: 12V/20.8A (250W) Convection	2	FS1 BODY	125.0	68	
CHD250PS12: 12V/20.8A (250W) Convection	3	L1 COIL	130.0	70	
CHD250PS12: 12V/20.8A (250W) Convection	4	L2 COIL	130.0	79	
CHD250PS12: 12V/20.8A (250W) Convection	5	C64 BODY	105.0	71	
CHD250PS12: 12V/20.8A (250W) Convection	6	OPTO 1 BODY	105.0	79	
CHD250PS12: 12V/20.8A (250W) Convection	7	PCB @ TR5,D5	130.0	85	
CHD250PS12: 12V/20.8A (250W) Convection	8	D24 BODY	140.0	87	
CHD250PS12: 12V/20.8A (250W) Convection	9	L4 COIL	130.0	86	
CHD250PS12: 12V/20.8A (250W) Convection	10	L3 COIL	130.0	85	
CHD250PS12: 12V/20.8A (250W) Convection	11	L5 COIL	130.0	105	
CHD250PS12: 12V/20.8A (250W) Convection	12	PCB @ TR27	130.0	95	
CHD250PS12: 12V/20.8A (250W) Convection	13	T1 COIL	130.0	101	
CHD250PS12: 12V/20.8A (250W) Convection	14	T1 CORE	130.0	91	
CHD250PS12: 12V/20.8A (250W) Convection	15	T2 BODY	130.0	92	
CHD250PS12: 12V/20.8A (250W) Convection	16	T3 BODY	130.0	85	

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Test Tables

CHD250PS12: 12V/20.8A (250W) Convection	17	C34 BODY	105.0	92	
CHD250PS12: 12V/20.8A (250W) Convection	18	L9 COIL	130.0	100	
CHD250PS12: 12V/20.8A (250W) Convection	19	PBC @ TR16	130.0	108	
CHD250PS12: 12V/20.8A (250W) Convection	20	CON1 BODY	105.0	60	
CHD250PS12: 12V/20.8A (250W) Convection	1	T AMBIENT	50.0	50	Tested at 264Vac, 50Hz; duration:2h
CHD250PS12: 12V/20.8A (250W) Convection	2	FS1 BODY	125.0	70	
CHD250PS12: 12V/20.8A (250W) Convection	3	L1 COIL	130.0	73	
CHD250PS12: 12V/20.8A (250W) Convection	4	L2 COIL	130.0	81	
CHD250PS12: 12V/20.8A (250W) Convection	5	C64 BODY	105.0	73	
CHD250PS12: 12V/20.8A (250W) Convection	6	OPTO 1 BODY	105.0	80	
CHD250PS12: 12V/20.8A (250W) Convection	7	PCB @ TR5,D5	130.0	85	
CHD250PS12: 12V/20.8A (250W) Convection	8	D24 BODY	140.0	89	
CHD250PS12: 12V/20.8A (250W) Convection	9	L4 COIL	130.0	86	
CHD250PS12: 12V/20.8A (250W) Convection	10	L3 COIL	130.0	86	
CHD250PS12: 12V/20.8A (250W) Convection	11	L5 COIL	130.0	106	

Test Tables

CHD250PS12: 12V/20.8A (250W) Convection	12	PCB @ TR27	130.0	96	
CHD250PS12: 12V/20.8A (250W) Convection	13	T1 COIL	130.0	103	
CHD250PS12: 12V/20.8A (250W) Convection	14	T1 CORE	130.0	93	
CHD250PS12: 12V/20.8A (250W) Convection	15	T2 BODY	130.0	94	
CHD250PS12: 12V/20.8A (250W) Convection	16	T3 BODY	130.0	86	
CHD250PS12: 12V/20.8A (250W) Convection	17	C34 BODY	105.0	93	
CHD250PS12: 12V/20.8A (250W) Convection	18	L9 COIL	130.0	101	
CHD250PS12: 12V/20.8A (250W) Convection	19	PBC @ TR16	130.0	109	
CHD250PS12: 12V/20.8A (250W) Convection	20	CON1 BODY	105.0	61	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	1	T AMBIENT	50.0	50	Tested at 90Vac, 50Hz, duration:2h
CHD250PS12: 12V/18.1A (217W) Convection with Cover	2	FS1 BODY	125.0	95	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	3	L1 COIL	130.0	98	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	4	L2 COIL	130.0	112	

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Test Tables

CHD250PS12: 12V/18.1A (217W) Convection with Cover	5	C64 BODY	105.0	92	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	6	OPTO 1 BODY	105.0	91	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	7	PCB @ TR5,D5	130.0	124	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	8	D24 BODY	140.0	127	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	9	L4 COIL	130.0	121	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	10	L3 COIL	130.0	113	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	11	L5 COIL	130.0	109	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	12	PCB @ TR27	130.0	96	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	13	T1 COIL	130.0	105	
CHD250PS12: 12V/18.1A (217W) Convection with	14	T1 CORE	130.0	107	

Test Tables

Cover					
CHD250PS12: 12V/18.1A (217W) Convection with Cover	15	T2 BODY	130.0	97	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	16	T3 BODY	130.0	88	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	17	C34 BODY	105.0	94	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	18	L9 COIL	130.0	98	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	19	PBC @ TR16	130.0	95	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	20	CON1 BODY	105.0	75	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	1	T AMBIENT	50.0	50	Tested at 264Vac, 50Hz; duration:2h
CHD250PS12: 12V/18.1A (217W) Convection with Cover	2	FS1 BODY	125.0	72	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	3	L1 COIL	130.0	74	
CHD250PS12: 12V/18.1A (217W)	4	L2 COIL	130.0	86	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with Cover					
CHD250PS12: 12V/18.1A (217W) Convection with Cover	5	C64 BODY	105.0	79	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	6	OPTO 1 BODY	105.0	81	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	7	PCB @ TR5,D5	130.0	95	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	8	D24 BODY	140.0	96	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	9	L4 COIL	130.0	93	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	10	L3 COIL	130.0	90	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	11	L5 COIL	130.0	102	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	12	PCB @ TR27	130.0	92	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	13	T1 COIL	130.0	101	

Test Tables

CHD250PS12: 12V/18.1A (217W) Convection with Cover	14	T1 CORE	130.0	102	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	15	T2 BODY	130.0	90	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	16	T3 BODY	130.0	82	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	17	C34 BODY	105.0	88	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	18	L9 COIL	130.0	94	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	19	PBC @ TR16	130.0	92	
CHD250PS12: 12V/18.1A (217W) Convection with Cover	20	CON1 BODY	105.0	63	
CHD250PS12: 12V/10.4A (125W) Convection	1	T AMBIENT	70.0	70	Tested at 90Vac, 50Hz; duration:2h
CHD250PS12: 12V/10.4A (125W) Convection	2	FS1 BODY	125.0	87	
CHD250PS12: 12V/10.4A	3	L1 COIL	130.0	89	

Test Tables

(125W) Convection					
CHD250PS12: 12V/10.4A (125W) Convection	4	L2 COIL	130.0	95	
CHD250PS12: 12V/10.4A (125W) Convection	5	C64 BODY	105.0	87	
CHD250PS12: 12V/10.4A (125W) Convection	6	OPTO 1 BODY	105.0	87	
CHD250PS12: 12V/10.4A (125W) Convection	7	PCB @ TR5,D5	130.0	98	
CHD250PS12: 12V/10.4A (125W) Convection	8	D24 BODY	140.0	101	
CHD250PS12: 12V/10.4A (125W) Convection	9	L4 COIL	130.0	100	
CHD250PS12: 12V/10.4A (125W) Convection	10	L3 COIL	130.0	97	
CHD250PS12: 12V/10.4A (125W) Convection	11	L5 COIL	130.0	96	
CHD250PS12:	12	PCB @ TR27	130.0	93	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

12V/10.4A (125W) Convection					
CHD250PS12: 12V/10.4A (125W) Convection	13	T1 COIL	130.0	92	
CHD250PS12: 12V/10.4A (125W) Convection	14	T1 CORE	130.0	89	
CHD250PS12: 12V/10.4A (125W) Convection	15	T2 BODY	130.0	91	
CHD250PS12: 12V/10.4A (125W) Convection	16	T3 BODY	130.0	89	
CHD250PS12: 12V/10.4A (125W) Convection	17	C34 BODY	105.0	88	
CHD250PS12: 12V/10.4A (125W) Convection	18	L9 COIL	130.0	90	
CHD250PS12: 12V/10.4A (125W) Convection	19	PBC @ TR16	130.0	92	
CHD250PS12: 12V/10.4A (125W) Convection	20	CON1 BODY	105.0	79	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS12: 12V/10.4A (125W) Convection	1	T AMBIENT	70.0	70	Tested at 264Vac, 50Hz; duration:2h
CHD250PS12: 12V/10.4A (125W) Convection	2	FS1 BODY	125.0	81	
CHD250PS12: 12V/10.4A (125W) Convection	3	L1 COIL	130.0	83	
CHD250PS12: 12V/10.4A (125W) Convection	4	L2 COIL	130.0	88	
CHD250PS12: 12V/10.4A (125W) Convection	5	C64 BODY	105.0	85	
CHD250PS12: 12V/10.4A (125W) Convection	6	OPTO 1 BODY	105.0	84	
CHD250PS12: 12V/10.4A (125W) Convection	7	PCB @ TR5,D5	130.0	93	
CHD250PS12: 12V/10.4A (125W) Convection	8	D24 BODY	140.0	94	
CHD250PS12: 12V/10.4A (125W)	9	L4 COIL	130.0	90	

Test Tables

Convection					
CHD250PS12: 12V/10.4A (125W) Convection	10	L3 COIL	130.0	89	
CHD250PS12: 12V/10.4A (125W) Convection	11	L5 COIL	130.0	95	
CHD250PS12: 12V/10.4A (125W) Convection	12	PCB @ TR27	130.0	92	
CHD250PS12: 12V/10.4A (125W) Convection	13	T1 COIL	130.0	92	
CHD250PS12: 12V/10.4A (125W) Convection	14	T1 CORE	130.0	88	
CHD250PS12: 12V/10.4A (125W) Convection	15	T2 BODY	130.0	90	
CHD250PS12: 12V/10.4A (125W) Convection	16	T3 BODY	130.0	87	
CHD250PS12: 12V/10.4A (125W) Convection	17	C34 BODY	105.0	87	
CHD250PS12: 12V/10.4A	18	L9 COIL	130.0	89	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(125W) Convection					
CHD250PS12: 12V/10.4A (125W) Convection	19	PBC @ TR16	130.0	91	
CHD250PS12: 12V/10.4A (125W) Convection	20	CON1 BODY	105.0	77	
CHD250PS12: 12V/10.4A (125W) Convection	1	T AMBIENT	70.0	70	At 90Vac, 50Hz; duration 2h
CHD250PS12: 12V/10.4A (125W) Convection	2	FS1 BODY	125.0	88	
CHD250PS12: 12V/10.4A (125W) Convection	3	L1 COIL	130.0	90	
CHD250PS12: 12V/10.4A (125W) Convection	4	L2 COIL	130.0	100	
CHD250PS12: 12V/10.4A (125W) Convection	5	C64 BODY	105.0	92	
CHD250PS12: 12V/10.4A (125W) Convection	6	OPTO 1 BODY	105.0	90	
CHD250PS12:	7	PCB @	130.0	107	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

12V/10.4A (125W) Convection		TR5,D5			
CHD250PS12: 12V/10.4A (125W) Convection	8	D24 BODY	140.0	108	
CHD250PS12: 12V/10.4A (125W) Convection	9	L4 COIL	130.0	106	
CHD250PS12: 12V/10.4A (125W) Convection	10	L3 COIL	130.0	101	
CHD250PS12: 12V/10.4A (125W) Convection	11	L5 COIL	130.0	98	
CHD250PS12: 12V/10.4A (125W) Convection	12	PCB @ TR27	130.0	95	
CHD250PS12: 12V/10.4A (125W) Convection	13	T1 COIL	130.0	96	
CHD250PS12: 12V/10.4A (125W) Convection	14	T1 CORE	130.0	97	
CHD250PS12: 12V/10.4A (125W) Convection	15	T2 BODY	130.0	94	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS12: 12V/10.4A (125W) Convection	16	T3 BODY	130.0	92	
CHD250PS12: 12V/10.4A (125W) Convection	17	C34 BODY	105.0	90	
CHD250PS12: 12V/10.4A (125W) Convection	18	L9 COIL	130.0	91	
CHD250PS12: 12V/10.4A (125W) Convection	19	PBC @ TR16	130.0	92	
CHD250PS12: 12V/10.4A (125W) Convection	20	CON1 BODY	105.0	81	
CHD250PS12: 12V/10.4A (125W) Convection with cover	1	T AMBIENT	70.0	70	Tested at 264Vac, 50Hz; duration:2h
CHD250PS12: 12V/10.4A (125W) Convection with cover	2	FS1 BODY	125.0	83	
CHD250PS12: 12V/10.4A (125W) Convection with cover	3	L1 COIL	130.0	85	

Test Tables

CHD250PS12: 12V/10.4A (125W) Convection with cover	4	L2 COIL	130.0	92	
CHD250PS12: 12V/10.4A (125W) Convection with cover	5	C64 BODY	105.0	87	
CHD250PS12: 12V/10.4A (125W) Convection with cover	6	OPTO 1 BODY	105.0	87	
CHD250PS12: 12V/10.4A (125W) Convection with cover	7	PCB @ TR5,D5	130.0	99	
CHD250PS12: 12V/10.4A (125W) Convection with cover	8	D24 BODY	140.0	99	
CHD250PS12: 12V/10.4A (125W) Convection with cover	9	L4 COIL	130.0	94	
CHD250PS12: 12V/10.4A (125W) Convection with cover	10	L3 COIL	130.0	93	
CHD250PS12: 12V/10.4A	11	L5 COIL	130.0	97	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(125W) Convection with cover					
CHD250PS12: 12V/10.4A (125W) Convection with cover	12	PCB @ TR27	130.0	93	
CHD250PS12: 12V/10.4A (125W) Convection with cover	13	T1 COIL	130.0	94	
CHD250PS12: 12V/10.4A (125W) Convection with cover	14	T1 CORE	130.0	95	
CHD250PS12: 12V/10.4A (125W) Convection with cover	15	T2 BODY	130.0	91	
CHD250PS12: 12V/10.4A (125W) Convection with cover	16	T3 BODY	130.0	89	
CHD250PS12: 12V/10.4A (125W) Convection with cover	17	C34 BODY	105.0	88	
CHD250PS12: 12V/10.4A (125W) Convection with	18	L9 COIL	130.0	90	

Test Tables

cover					
CHD250PS12: 12V/10.4A (125W) Convection with cover	19	PBC @ TR16	130.0	91	
CHD250PS12: 12V/10.4A (125W) Convection with cover	20	CON1 BODY	105.0	79	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	1	T AMBIENT	50.0	50	Tested at 90Vac, 50Hz; duration 2h
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	2	FS1 BODY	125.0	98	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	3	L1 COIL	130.0	98	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	4	L2 COIL	130.0	107	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	5	C64 BODY	105.0	89	

Test Tables

CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	6	OPTO 1 BODY	105.0	97	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	7	PCB @ TR5,D5	130.0	104	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	8	D24 BODY	140.0	118	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	9	L4 COIL	130.0	114	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	10	L3 COIL	130.0	121	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	11	L5 COIL	130.0	105	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	12	PCB @ TR27	130.0	98	
CHD250PS12: 12V/18.33A,	13	T1 COIL	130.0	117	

Test Tables

5V/1A (225W) Convection with 5V Standby					
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	14	T1 CORE	130.0	113	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	15	T2 BODY	130.0	118	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	16	T3 BODY	130.0	112	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	17	C34 BODY	105.0	102	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	18	L9 COIL	130.0	93	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	19	PBC @ TR16	130.0	105	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with	20	CON1 BODY	105.0	82	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V Standby					
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	21	T1 COIL-SB	130.0	110	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	22	T1 CORE-SB	130.0	104	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	23	C7 BODY-SB	105.0	97	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	24	L1 COIL-SB	130.0	105	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	25	C14 BODY-SB	105.0	105	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	1	T AMBIENT	50.0	50	Tested at 264Vac, 50Hz, duration:2h
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	2	FS1 BODY	125.0	67	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	3	L1 COIL	130.0	72	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	4	L2 COIL	130.0	81	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	5	C64 BODY	105.0	75	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	6	OPTO 1 BODY	105.0	87	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	7	PCB @ TR5,D5	130.0	85	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	8	D24 BODY	140.0	91	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	9	L4 COIL	130.0	92	
CHD250PS12: 12V/18.33A,	10	L3 COIL	130.0	93	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V/1A (225W) Convection with 5V Standby					
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	11	L5 COIL	130.0	99	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	12	PCB @ TR27	130.0	94	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	13	T1 COIL	130.0	113	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	14	T1 CORE	130.0	109	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	15	T2 BODY	130.0	110	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	16	T3 BODY	130.0	101	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with	17	C34 BODY	105.0	97	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V Standby					
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	18	L9 COIL	130.0	90	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	19	PBC @ TR16	130.0	102	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	20	CON1 BODY	105.0	62	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	21	T1 COIL-SB	130.0	102	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	22	T1 CORE-SB	130.0	95	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	23	C7 BODY-SB	105.0	92	
CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	24	L1 COIL-SB	130.0	85	

Test Tables

CHD250PS12: 12V/18.33A, 5V/1A (225W) Convection with 5V Standby	25	C14 BODY-SB	105.0	94	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	1	T AMBIENT	50.0	50	Tested at 90Vac, 50Hz; duration:2h
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	2	FS1 BODY	125.0	80	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	3	L1 COIL	130.0	84	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	4	L2 COIL	130.0	96	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	5	C64 BODY	105.0	82	
CHD250PS12: 12V/13.33A,	6	OPTO 1 BODY	105.0	81	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V/1A (165W) Convection with 5V Standby and Cover					
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	7	PCB @ TR5,D5	130.0	104	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	8	D24 BODY	140.0	107	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	9	L4 COIL	130.0	107	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	10	L3 COIL	130.0	103	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	11	L5 COIL	130.0	95	
CHD250PS12: 12V/13.33A, 5V/1A (165W)	12	PCB @ TR27	130.0	88	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with 5V Standby and Cover					
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	13	T1 COIL	130.0	91	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	14	T1 CORE	130.0	93	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	15	T2 BODY	130.0	98	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	16	T3 BODY	130.0	97	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	17	C34 BODY	105.0	86	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with	18	L9 COIL	130.0	82	

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V Standby and Cover					
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	19	PBC @ TR16	130.0	89	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	20	CON1 BODY	105.0	68	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	21	T1 COIL-SB	130.0	94	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	22	T1 CORE-SB	130.0	93	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	23	C7 BODY-SB	105.0	77	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and	24	L1 COIL-SB	130.0	83	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover					
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	25	C14 BODY-SB	105.0	100	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	1	T AMBIENT	50.0	50	Tested at 264Vac, 50Hz; duration: 2h
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	2	FS1 BODY	125.0	70	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	3	L1 COIL	130.0	72	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	4	L2 COIL	130.0	83	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	5	C64 BODY	105.0	77	

Test Tables

CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	6	OPTO 1 BODY	105.0	76	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	7	PCB @ TR5,D5	130.0	92	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	8	D24 BODY	140.0	94	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	9	L4 COIL	130.0	93	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	10	L3 COIL	130.0	91	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	11	L5 COIL	130.0	91	
CHD250PS12:	12	PCB @ TR27	130.0	85	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover					
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	13	T1 COIL	130.0	89	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	14	T1 CORE	130.0	90	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	15	T2 BODY	130.0	93	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	16	T3 BODY	130.0	91	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	17	C34 BODY	105.0	83	
CHD250PS12: 12V/13.33A,	18	L9 COIL	130.0	80	

Test Tables

5V/1A (165W) Convection with 5V Standby and Cover					
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	19	PBC @ TR16	130.0	87	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	20	CON1 BODY	105.0	62	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	21	T1 COIL-SB	130.0	89	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	22	T1 CORE-SB	130.0	88	
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	23	C7 BODY-SB	105.0	75	
CHD250PS12: 12V/13.33A, 5V/1A (165W)	24	L1 COIL-SB	130.0	81	

Test Tables

Convection with 5V Standby and Cover					
CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover	25	C14 BODY-SB	105.0	91	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	1	T AMBIENT	70.0	50	Tested at 90Vac, 50Hz, duration 2h
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	2	FS1 BODY	125.0	85	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	3	L1 COIL	130.0	88	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	4	L2 COIL	130.0	96	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W)	5	C64 BODY	105.0	90	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with 5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	6	OPTO 1 BODY	105.0	92	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	7	PCB @ TR5,D5	130.0	98	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	8	D24 BODY	140.0	103	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	9	L4 COIL	130.0	101	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	10	L3 COIL	130.0	105	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with	11	L5 COIL	130.0	96	

Test Tables

5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	12	PCB @ TR27	130.0	94	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	13	T1 COIL	130.0	100	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	14	T1 CORE	130.0	98	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	15	T2 BODY	130.0	102	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	16	T3 BODY	130.0	100	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	17	C34 BODY	105.0	93	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	18	L9 COIL	130.0	89	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	19	PBC @ TR16	130.0	93	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	20	CON1 BODY	105.0	100	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	21	T1 COIL-SB	130.0	97	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	22	T1 CORE-SB	130.0	93	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	23	C7 BODY-SB	105.0	89	
CHD250PS12:	24	L1 COIL-SB	130.0	96	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	25	C14 BODY-SB	105.0	96	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	1	T ambient	70	70	Tested at 90Vac, 50Hz, duration 2h
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	2	FS1 BODY	125.0	85	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	3	L1 COIL	130.0	88	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	4	L2 COIL	130.0	96	
CHD250PS12: 12V/9.17A,	5	C64 BODY	105.0	90	

Test Tables

5V/0.5A (112.5W) Convection with 5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	6	OPTO 1 BODY	105.0	92	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	7	PCB @ TR5,D5	130.0	98	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	8	D24 BODY	140.0	103	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	9	L4 COIL	130.0	101	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	10	L3 COIL	130.0	105	
CHD250PS12: 12V/9.17A, 5V/0.5A	11	L5 COIL	130.0	96	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(112.5W) Convection with 5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	12	PCB @ TR27	130.0	94	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	13	T1 COIL	130.0	100	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	14	T1 CORE	130.0	98	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	15	T2 BODY	130.0	102	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	16	T3 BODY	130.0	100	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W)	17	C34 BODY	105.0	93	

Test Tables

Convection with 5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	18	L9 COIL	130.0	89	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	19	PBC @ TR16	130.0	93	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	20	CON1 BODY	105.0	100	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	21	T1 COIL-SB	130.0	97	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	22	T1 CORE-SB	130.0	93	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with	23	C7 BODY-SB	105.0	89	

Test Tables

5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	24	L1 COIL-SB	130.0	96	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	25	C14 BODY-SB	105.0	96	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	1	T ambient	70	70	Tested at 264Vac, 50Hz, duration 2h
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	2	FS1 BODY	125.0	81	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	3	L1 COIL	130.0	84	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	4	L2 COIL	130.0	91	

Test Tables

CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	5	C64 BODY	105.0	89	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	6	OPTO 1 BODY	105.0	88	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	7	PCB @ TR5,D5	130.0	93	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	8	D24 BODY	140.0	95	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	9	L4 COIL	130.0	92	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	10	L3 COIL	130.0	96	
CHD250PS12:	11	L5 COIL	130.0	94	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	12	PCB @ TR27	130.0	93	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	13	T1 COIL	130.0	98	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	14	T1 CORE	130.0	97	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	15	T2 BODY	130.0	99	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	16	T3 BODY	130.0	96	
CHD250PS12: 12V/9.17A,	17	C34 BODY	105.0	91	

Test Tables

5V/0.5A (112.5W) Convection with 5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	18	L9 COIL	130.0	88	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	19	PBC @ TR16	130.0	92	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	20	CON1 BODY	105.0	78	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	21	T1 COIL-SB	130.0	97	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	22	T1 CORE-SB	130.0	94	
CHD250PS12: 12V/9.17A, 5V/0.5A	23	C7 BODY-SB	105.0	91	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(112.5W) Convection with 5V Standby					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	24	L1 COIL-SB	130.0	87	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby	25	C14 BODY-SB	105.0	91	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	1	T ambient	70	70	Tested at 90Vac, 50Hz, duration 2h
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	2	FS1 BODY	125.0	86	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	3	L1 COIL	130.0	88	
CHD250PS12:	4	L2 COIL	130.0	96	

Test Tables

12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	5	C64 BODY	105.0	90	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	6	OPTO 1 BODY	105.0	89	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	7	PCB @ TR5,D5	130.0	104	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	8	D24 BODY	140.0	104	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W)	9	L4 COIL	130.0	103	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with 5V Standby with cover					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	10	L3 COIL	130.0	101	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	11	L5 COIL	130.0	96	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	12	PCB @ TR27	130.0	94	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	13	T1 COIL	130.0	94	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with	14	T1 CORE	130.0	94	

Test Tables

cover					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	15	T2 BODY	130.0	98	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	16	T3 BODY	130.0	97	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	17	C34 BODY	105.0	90	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	18	L9 COIL	130.0	87	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	19	PBC @ TR16	130.0	91	
CHD250PS12:	20	CON1 BODY	105.0	80	

Test Tables

12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	21	T1 COIL-SB	130.0	94	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	22	T1 CORE-SB	130.0	94	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	23	C7 BODY-SB	105.0	86	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	24	L1 COIL-SB	130.0	89	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W)	25	C14 BODY-SB	105.0	99	

Test Tables

Convection with 5V Standby with cover					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	1	T ambient	70	70	Tested at 264Vac, 50Hz, duration 2h
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	2	FS1 BODY	125.0	83	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	3	L1 COIL	130.0	85	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	4	L2 COIL	130.0	92	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with	5	C64 BODY	105.0	88	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

cover					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	6	OPTO 1 BODY	105.0	86	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	7	PCB @ TR5,D5	130.0	99	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	8	D24 BODY	140.0	99	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	9	L4 COIL	130.0	97	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	10	L3 COIL	130.0	95	
CHD250PS12:	11	L5 COIL	130.0	95	

Test Tables

12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	12	PCB @ TR27	130.0	92	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	13	T1 COIL	130.0	93	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	14	T1 CORE	130.0	93	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	15	T2 BODY	130.0	96	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W)	16	T3 BODY	130.0	95	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with 5V Standby with cover					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	17	C34 BODY	105.0	89	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	18	L9 COIL	130.0	86	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	19	PBC @ TR16	130.0	90	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	20	CON1 BODY	105.0	79	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with	21	T1 COIL-SB	130.0	92	

Test Tables

cover					
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	22	T1 CORE-SB	130.0	92	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	23	C7 BODY-SB	105.0	84	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	24	L1 COIL-SB	130.0	87	
CHD250PS12: 12V/9.17A, 5V/0.5A (112.5W) Convection with 5V Standby with cover	25	C14 BODY-SB	105.0	95	
CHD250PS24: 24V/10.4A (250W) Convection	1	T AMBIENT	50.0	50	Tested at 90Vac, 50Hz, duration:2h
CHD250PS24: 24V/10.4A (250W) Convection	2	FS1 BODY	125.0	91	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/10.4A (250W) Convection	3	L1 COIL	130.0	99	
CHD250PS24: 24V/10.4A (250W) Convection	4	L2 COIL	130.0	111	
CHD250PS24: 24V/10.4A (250W) Convection	5	C64 BODY	105.0	82	
CHD250PS24: 24V/10.4A (250W) Convection	6	OPTO 1 BODY	105.0	87	
CHD250PS24: 24V/10.4A (250W) Convection	7	PCB @ TR5,D5	130.0	108	
CHD250PS24: 24V/10.4A (250W) Convection	8	D24 BODY	140.0	119	
CHD250PS24: 24V/10.4A (250W) Convection	9	L4 COIL	130.0	103	
CHD250PS24: 24V/10.4A (250W) Convection	10	L3 COIL	130.0	113	
CHD250PS24: 24V/10.4A (250W)	11	L5 COIL	130.0	105	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS24: 24V/10.4A (250W) Convection	12	PCB @ TR27	130.0	91	
CHD250PS24: 24V/10.4A (250W) Convection	13	T1 COIL	130.0	103	
CHD250PS24: 24V/10.4A (250W) Convection	14	T1 CORE	130.0	104	
CHD250PS24: 24V/10.4A (250W) Convection	15	T2 BODY	130.0	99	
CHD250PS24: 24V/10.4A (250W) Convection	16	T3 BODY	130.0	95	
CHD250PS24: 24V/10.4A (250W) Convection	17	C34 BODY	105.0	84	
CHD250PS24: 24V/10.4A (250W) Convection	18	L9 COIL	130.0	82	
CHD250PS24: 24V/10.4A (250W) Convection	19	PBC @ TR16	130.0	90	
CHD250PS24: 24V/10.4A	20	CON1 BODY	105.0	71	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(250W) Convection					
CHD250PS24: 24V/10.4A (250W) Convection	1	T AMBIENT	50.0	50	Tested at 100 Vac, 50 Hz; duration 2 h
CHD250PS24: 24V/10.4A (250W) Convection	2	FS1 BODY	125.0	83	
CHD250PS24: 24V/10.4A (250W) Convection	3	L1 COIL	130.0	90	
CHD250PS24: 24V/10.4A (250W) Convection	4	L2 COIL	130.0	105	
CHD250PS24: 24V/10.4A (250W) Convection	5	C64 BODY	105.0	79	
CHD250PS24: 24V/10.4A (250W) Convection	6	OPTO 1 BODY	105.0	86	
CHD250PS24: 24V/10.4A (250W) Convection	7	PCB @ TR5,D5	130.0	104	
CHD250PS24: 24V/10.4A (250W) Convection	8	D24 BODY	140.0	113	
CHD250PS24:	9	L4 COIL	130.0	100	

Test Tables

24V/10.4A (250W) Convection					
CHD250PS24: 24V/10.4A (250W) Convection	10	L3 COIL	130.0	110	
CHD250PS24: 24V/10.4A (250W) Convection	11	L5 COIL	130.0	104	
CHD250PS24: 24V/10.4A (250W) Convection	12	PCB @ TR27	130.0	90	
CHD250PS24: 24V/10.4A (250W) Convection	13	T1 COIL	130.0	102	
CHD250PS24: 24V/10.4A (250W) Convection	14	T1 CORE	130.0	103	
CHD250PS24: 24V/10.4A (250W) Convection	15	T2 BODY	130.0	98	
CHD250PS24: 24V/10.4A (250W) Convection	16	T3 BODY	130.0	94	
CHD250PS24: 24V/10.4A (250W) Convection	17	C34 BODY	105.0	83	

Test Tables

CHD250PS24: 24V/10.4A (250W) Convection	18	L9 COIL	130.0	82	
CHD250PS24: 24V/10.4A (250W) Convection	19	PBC @ TR16	130.0	89	
CHD250PS24: 24V/10.4A (250W) Convection	20	CON1 BODY	105.0	68	Tested at 240vac, 50Hz; Duration 2h
CHD250PS24: 24V/10.4A (250W) Convection	1	T AMBIENT	50.0	50	Tested at 240 Vac, 50Hz, duration:2h
CHD250PS24: 24V/10.4A (250W) Convection	2	FS1 BODY	125.0	65	
CHD250PS24: 24V/10.4A (250W) Convection	3	L1 COIL	130.0	69	
CHD250PS24: 24V/10.4A (250W) Convection	4	L2 COIL	130.0	79	
CHD250PS24: 24V/10.4A (250W) Convection	5	C64 BODY	105.0	70	
CHD250PS24: 24V/10.4A (250W)	6	OPTO 1 BODY	105.0	72	

Test Tables

Convection					
CHD250PS24: 24V/10.4A (250W) Convection	7	PCB @ TR5,D5	130.0	84	
CHD250PS24: 24V/10.4A (250W) Convection	8	D24 BODY	140.0	86	
CHD250PS24: 24V/10.4A (250W) Convection	9	L4 COIL	130.0	79	
CHD250PS24: 24V/10.4A (250W) Convection	10	L3 COIL	130.0	83	
CHD250PS24: 24V/10.4A (250W) Convection	11	L5 COIL	130.0	101	
CHD250PS24: 24V/10.4A (250W) Convection	12	PCB @ TR27	130.0	88	
CHD250PS24: 24V/10.4A (250W) Convection	13	T1 COIL	130.0	99	
CHD250PS24: 24V/10.4A (250W) Convection	14	T1 CORE	130.0	100	
CHD250PS24: 24V/10.4A	15	T2 BODY	130.0	84	

Test Tables

(250W) Convection					
CHD250PS24: 24V/10.4A (250W) Convection	16	T3 BODY	130.0	78	
CHD250PS24: 24V/10.4A (250W) Convection	17	C34 BODY	105.0	77	
CHD250PS24: 24V/10.4A (250W) Convection	18	L9 COIL	130.0	79	
CHD250PS24: 24V/10.4A (250W) Convection	19	PBC @ TR16	130.0	89	
CHD250PS24: 24V/10.4A (250W) Convection	20	CON1 BODY	105.0	59	
CHD250PS24: 24V/10.4A (250W) Convection	1	T AMBIENT	50.0	50	Tested at 264Vac, 50Hz, Duration 2h
CHD250PS24: 24V/10.4A (250W) Convection	2	FS1 BODY	125.0	66	
CHD250PS24: 24V/10.4A (250W) Convection	3	L1 COIL	130.0	70	
CHD250PS24:	4	L2 COIL	130.0	79	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

24V/10.4A (250W) Convection					
CHD250PS24: 24V/10.4A (250W) Convection	5	C64 BODY	105.0	71	
CHD250PS24: 24V/10.4A (250W) Convection	6	OPTO 1 BODY	105.0	72	
CHD250PS24: 24V/10.4A (250W) Convection	7	PCB @ TR5,D5	130.0	84	
CHD250PS24: 24V/10.4A (250W) Convection	8	D24 BODY	140.0	86	
CHD250PS24: 24V/10.4A (250W) Convection	9	L4 COIL	130.0	77	
CHD250PS24: 24V/10.4A (250W) Convection	10	L3 COIL	130.0	82	
CHD250PS24: 24V/10.4A (250W) Convection	11	L5 COIL	130.0	102	
CHD250PS24: 24V/10.4A (250W) Convection	12	PCB @ TR27	130.0	88	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/10.4A (250W) Convection	13	T1 COIL	130.0	99	
CHD250PS24: 24V/10.4A (250W) Convection	14	T1 CORE	130.0	100	
CHD250PS24: 24V/10.4A (250W) Convection	15	T2 BODY	130.0	83	
CHD250PS24: 24V/10.4A (250W) Convection	16	T3 BODY	130.0	77	
CHD250PS24: 24V/10.4A (250W) Convection	17	C34 BODY	105.0	77	
CHD250PS24: 24V/10.4A (250W) Convection	18	L9 COIL	130.0	79	
CHD250PS24: 24V/10.4A (250W) Convection	19	PBC @ TR16	130.0	88	
CHD250PS24: 24V/10.4A (250W) Convection	20	CON1 BODY	105.0	59	
CHD250PS24: 24V/9.04A (217W) Convection with	1	T AMBIENT	50.0	50	Tested at 90Vac, 50Hz, duration 2h

Test Tables

Cover					
CHD250PS24: 24V/9.04A (217W) Convection with Cover	2	FS1 BODY	125.0	86	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	3	L1 COIL	130.0	93	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	4	L2 COIL	130.0	109	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	5	C64 BODY	105.0	88	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	6	OPTO 1 BODY	105.0	84	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	7	PCB @ TR5,D5	130.0	118	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	8	D24 BODY	140.0	122	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/9.04A (217W) Convection with Cover	9	L4 COIL	130.0	107	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	10	L3 COIL	130.0	118	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	11	L5 COIL	130.0	102	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	12	PCB @ TR27	130.0	89	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	13	T1 COIL	130.0	99	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	14	T1 CORE	130.0	99	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	15	T2 BODY	130.0	98	
CHD250PS24: 24V/9.04A	16	T3 BODY	130.0	96	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(217W) Convection with Cover					
CHD250PS24: 24V/9.04A (217W) Convection with Cover	17	C34 BODY	105.0	84	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	18	L9 COIL	130.0	80	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	19	PBC @ TR16	130.0	87	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	20	CON1 BODY	105.0	71	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	1	T AMBIENT	50.0	50	Tested at 264Vac, 50Hz, duration 2h
CHD250PS24: 24V/9.04A (217W) Convection with Cover	2	FS1 BODY	125.0	68	
CHD250PS24: 24V/9.04A (217W) Convection with	3	L1 COIL	130.0	72	

Test Tables

Cover					
CHD250PS24: 24V/9.04A (217W) Convection with Cover	4	L2 COIL	130.0	84	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	5	C64 BODY	105.0	76	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	6	OPTO 1 BODY	105.0	75	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	7	PCB @ TR5,D5	130.0	94	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	8	D24 BODY	140.0	95	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	9	L4 COIL	130.0	85	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	10	L3 COIL	130.0	92	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/9.04A (217W) Convection with Cover	11	L5 COIL	130.0	96	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	12	PCB @ TR27	130.0	85	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	13	T1 COIL	130.0	95	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	14	T1 CORE	130.0	95	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	15	T2 BODY	130.0	90	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	16	T3 BODY	130.0	85	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	17	C34 BODY	105.0	79	
CHD250PS24: 24V/9.04A	18	L9 COIL	130.0	77	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(217W) Convection with Cover					
CHD250PS24: 24V/9.04A (217W) Convection with Cover	19	PBC @ TR16	130.0	84	
CHD250PS24: 24V/9.04A (217W) Convection with Cover	20	CON1 BODY	105.0	61	
CHD250PS24: 24V/5.2A (125W) Convection	1	T AMBIENT	70.0	70	Tested at 90Vac, 50Hz, duration 2 h
CHD250PS24: 24V/5.2A (125W) Convection	2	FS1 BODY	125.0	84	
CHD250PS24: 24V/5.2A (125W) Convection	3	L1 COIL	130.0	87	
CHD250PS24: 24V/5.2A (125W) Convection	4	L2 COIL	130.0	96	
CHD250PS24: 24V/5.2A (125W) Convection	5	C64 BODY	105.0	87	
CHD250PS24: 24V/5.2A (125W) Convection	6	OPTO 1 BODY	105.0	88	
CHD250PS24: 24V/5.2A (125W) Convection	7	PCB @ TR5,D5	130.0	99	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/5.2A (125W) Convection	8	D24 BODY	140.0	103	
CHD250PS24: 24V/5.2A (125W) Convection	9	L4 COIL	130.0	96	
CHD250PS24: 24V/5.2A (125W) Convection	10	L3 COIL	130.0	101	
CHD250PS24: 24V/5.2A (125W) Convection	11	L5 COIL	130.0	95	
CHD250PS24: 24V/5.2A (125W) Convection	12	PCB @ TR27	130.0	90	
CHD250PS24: 24V/5.2A (125W) Convection	13	T1 COIL	130.0	92	
CHD250PS24: 24V/5.2A (125W) Convection	14	T1 CORE	130.0	93	
CHD250PS24: 24V/5.2A (125W) Convection	15	T2 BODY	130.0	93	
CHD250PS24: 24V/5.2A (125W) Convection	16	T3 BODY	130.0	92	
CHD250PS24: 24V/5.2A (125W) Convection	17	C34 BODY	105.0	85	
CHD250PS24: 24V/5.2A (125W) Convection	18	L9 COIL	130.0	84	

Test Tables

CHD250PS24: 24V/5.2A (125W) Convection	19	PBC @ TR16	130.0	87	
CHD250PS24: 24V/5.2A (125W) Convection	20	CON1 BODY	105.0	78	
CHD250PS24: 24V/5.2A (125W) Convection	1	T AMBIENT	70.0	70	Tested at 264Vac, 50Hz, duration 2h
CHD250PS24: 24V/5.2A (125W) Convection	2	FS1 BODY	125.0	80	
CHD250PS24: 24V/5.2A (125W) Convection	3	L1 COIL	130.0	82	
CHD250PS24: 24V/5.2A (125W) Convection	4	L2 COIL	130.0	89	
CHD250PS24: 24V/5.2A (125W) Convection	5	C64 BODY	105.0	85	
CHD250PS24: 24V/5.2A (125W) Convection	6	OPTO 1 BODY	105.0	84	
CHD250PS24: 24V/5.2A (125W) Convection	7	PCB @ TR5,D5	130.0	92	
CHD250PS24: 24V/5.2A (125W) Convection	8	D24 BODY	140.0	93	
CHD250PS24: 24V/5.2A (125W) Convection	9	L4 COIL	130.0	86	

Test Tables

CHD250PS24: 24V/5.2A (125W) Convection	10	L3 COIL	130.0	91	
CHD250PS24: 24V/5.2A (125W) Convection	11	L5 COIL	130.0	94	
CHD250PS24: 24V/5.2A (125W) Convection	12	PCB @ TR27	130.0	89	
CHD250PS24: 24V/5.2A (125W) Convection	13	T1 COIL	130.0	91	
CHD250PS24: 24V/5.2A (125W) Convection	14	T1 CORE	130.0	93	
CHD250PS24: 24V/5.2A (125W) Convection	15	T2 BODY	130.0	91	
CHD250PS24: 24V/5.2A (125W) Convection	16	T3 BODY	130.0	88	
CHD250PS24: 24V/5.2A (125W) Convection	17	C34 BODY	105.0	84	
CHD250PS24: 24V/5.2A (125W) Convection	18	L9 COIL	130.0	83	
CHD250PS24: 24V/5.2A (125W) Convection	19	PBC @ TR16	130.0	87	
CHD250PS24: 24V/5.2A (125W) Convection	20	CON1 BODY	105.0	76	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/4.52A (109W) Convection with Cover	1	T AMBIENT	70.0	70	Tested at 90Vac, 50Hz, Duration:2h
CHD250PS24: 24V/4.52A (109W) Convection with Cover	2	FS1 BODY	125.0	82	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	3	L1 COIL	130.0	84	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	4	L2 COIL	130.0	91	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	5	C64 BODY	105.0	88	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	6	OPTO 1 BODY	105.0	84	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	7	PCB @ TR5,D5	130.0	96	
CHD250PS24: 24V/4.52A	8	D24 BODY	140.0	96	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(109W) Convection with Cover					
CHD250PS24: 24V/4.52A (109W) Convection with Cover	9	L4 COIL	130.0	89	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	10	L3 COIL	130.0	94	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	11	L5 COIL	130.0	95	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	12	PCB @ TR27	130.0	90	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	13	T1 COIL	130.0	91	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	14	T1 CORE	130.0	92	
CHD250PS24: 24V/4.52A (109W) Convection with	15	T2 BODY	130.0	92	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover					
CHD250PS24: 24V/4.52A (109W) Convection with Cover	16	T3 BODY	130.0	90	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	17	C34 BODY	105.0	85	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	18	L9 COIL	130.0	84	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	19	PBC @ TR16	130.0	87	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	20	CON1 BODY	105.0	78	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	1	T AMBIENT	70.0	70	Tested at 264Vac, 50Hz; duration:2h
CHD250PS24: 24V/4.52A (109W) Convection with Cover	2	FS1 BODY	125.0	86	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/4.52A (109W) Convection with Cover	3	L1 COIL	130.0	89	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	4	L2 COIL	130.0	98	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	5	C64 BODY	105.0	91	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	6	OPTO 1 BODY	105.0	88	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	7	PCB @ TR5,D5	130.0	106	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	8	D24 BODY	140.0	107	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	9	L4 COIL	130.0	99	
CHD250PS24: 24V/4.52A	10	L3 COIL	130.0	105	

Test Tables

(109W) Convection with Cover					
CHD250PS24: 24V/4.52A (109W) Convection with Cover	11	L5 COIL	130.0	97	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	12	PCB @ TR27	130.0	92	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	13	T1 COIL	130.0	92	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	14	T1 CORE	130.0	92	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	15	T2 BODY	130.0	93	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	16	T3 BODY	130.0	95	
CHD250PS24: 24V/4.52A (109W) Convection with	17	C34 BODY	105.0	94	

Test Tables

Cover					
CHD250PS24: 24V/4.52A (109W) Convection with Cover	18	L9 COIL	130.0	87	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	19	PBC @ TR16	130.0	88	
CHD250PS24: 24V/4.52A (109W) Convection with Cover	20	CON1 BODY	105.0	80	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	1	T AMBIENT	50.0	50	Tested at 90Vac, 50Hz, Duration:2h
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	2	FS1 BODY	125.0	85	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	3	L1 COIL	130.0	92	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	4	L2 COIL	130.0	105	

Test Tables

CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	5	C64 BODY	105.0	79	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	6	OPTO 1 BODY	105.0	88	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	7	PCB @ TR5,D5	130.0	104	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	8	D24 BODY	140.0	113	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	9	L4 COIL	130.0	105	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	10	L3 COIL	130.0	114	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	11	L5 COIL	130.0	99	
CHD250PS24: 24V/9.17A,	12	PCB @ TR27	130.0	85	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V/1A (220.5W) Convection with 5V Stdby					
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	13	T1 COIL	130.0	97	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	14	T1 CORE	130.0	99	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	15	T2 BODY	130.0	106	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	16	T3 BODY	130.0	101	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	17	C34 BODY	105.0	87	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	18	L9 COIL	130.0	81	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with	19	PBC @ TR16	130.0	85	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V Stdby					
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	20	CON1 BODY	105.0	70	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	21	T1 COIL-SB	130.0	107	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	22	T1 CORE-SB	130.0	77	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	23	C6 BODY-SB	105.0	83	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	24	L1 COIL-SB	130.0	81	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	25	C14 BODY-SB	125.0	109	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	1	T AMBIENT	50.0	50	Tested at 264Vac, 50Hz, Duration 2h

Test Tables

CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	2	FS1 BODY	125.0	66	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	3	L1 COIL	130.0	70	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	4	L2 COIL	130.0	82	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	5	C64 BODY	105.0	71	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	6	OPTO 1 BODY	105.0	79	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	7	PCB @ TR5,D5	130.0	86	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	8	D24 BODY	140.0	90	
CHD250PS24: 24V/9.17A,	9	L4 COIL	130.0	86	

Test Tables

5V/1A (220.5W) Convection with 5V Stdby					
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	10	L3 COIL	130.0	92	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	11	L5 COIL	130.0	95	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	12	PCB @ TR27	130.0	83	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	13	T1 COIL	130.0	94	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	14	T1 CORE	130.0	97	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	15	T2 BODY	130.0	99	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with	16	T3 BODY	130.0	93	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V Stdby					
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	17	C34 BODY	105.0	82	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	18	L9 COIL	130.0	78	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	19	PBC @ TR16	130.0	83	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	20	CON1 BODY	105.0	60	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	21	T1 COIL-SB	130.0	99	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	22	T1 CORE-SB	130.0	70	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	23	C6 BODY-SB	105.0	80	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	24	L1 COIL-SB	130.0	79	
CHD250PS24: 24V/9.17A, 5V/1A (220.5W) Convection with 5V Stdby	25	C14 BODY-SB	125.0	95	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	1	T AMBIENT	50.0	50	Tested at 90Vac, 50Hz, Duration:2h
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	2	FS1 BODY	125.0	87	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	3	L1 COIL	130.0	94	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	4	L2 COIL	130.0	107	
CHD250PS24: 24V/6.67A, 5V/1A (165W)	5	C64 BODY	105.0	81	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with Cover and 5V Stdby					
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	6	OPTO 1 BODY	105.0	90	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	7	PCB @ TR5,D5	130.0	106	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	8	D24 BODY	140.0	115	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	9	L4 COIL	130.0	107	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	10	L3 COIL	130.0	117	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with	11	L5 COIL	130.0	102	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover and 5V Stdby					
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	12	PCB @ TR27	130.0	88	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	13	T1 COIL	130.0	100	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	14	T1 CORE	130.0	101	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	15	T2 BODY	130.0	108	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	16	T3 BODY	130.0	103	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V	17	C34 BODY	105.0	89	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Stdby					
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	18	L9 COIL	130.0	84	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	19	PBC @ TR16	130.0	89	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	20	CON1 BODY	105.0	72	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	21	T1 COIL-SB	130.0	110	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	22	T1 CORE-SB	130.0	80	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	23	C6 BODY-SB	105.0	85	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	24	L1 COIL-SB	130.0	84	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	25	C14 BODY-SB	125.0	112	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	1	T AMBIENT	50.0	50	Tested at 264 Vac, 50 Hz; duration:2h
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	2	FS1 BODY	125.0	67	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	3	L1 COIL	130.0	72	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	4	L2 COIL	130.0	83	
CHD250PS24:	5	C64 BODY	105.0	75	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby					
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	6	OPTO 1 BODY	105.0	81	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	7	PCB @ TR5,D5	130.0	92	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	8	D24 BODY	140.0	92	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	9	L4 COIL	130.0	89	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	10	L3 COIL	130.0	95	
CHD250PS24: 24V/6.67A,	11	L5 COIL	130.0	98	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V/1A (165W) Convection with Cover and 5V Stdby					
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	12	PCB @ TR27	130.0	86	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	13	T1 COIL	130.0	96	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	14	T1 CORE	130.0	99	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	15	T2 BODY	130.0	102	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	16	T3 BODY	130.0	95	
CHD250PS24: 24V/6.67A, 5V/1A (165W)	17	C34 BODY	105.0	84	

Test Tables

Convection with Cover and 5V Stdby					
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	18	L9 COIL	130.0	81	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	19	PBC @ TR16	130.0	85	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	20	CON1 BODY	105.0	63	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	21	T1 COIL-SB	130.0	101	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	22	T1 CORE-SB	130.0	73	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with	23	C6 BODY-SB	105.0	82	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover and 5V Stdby					
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	24	L1 COIL-SB	130.0	80	
CHD250PS24: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby	25	C14 BODY-SB	125.0	97	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	1	T AMBIENT	70.0	70	Tested at 90Vac, 50Hz, Duration: 2h
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	2	FS1 BODY	125.0	84	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	3	L1 COIL	130.0	87	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with	4	L2 COIL	130.0	98	

Test Tables

5V Stdby					
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	5	C64 BODY	105.0	90	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	6	OPTO 1 BODY	105.0	88	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	7	PCB @ TR5,D5	130.0	105	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	8	D24 BODY	140.0	106	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	9	L4 COIL	130.0	101	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	10	L3 COIL	130.0	107	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	11	L5 COIL	130.0	96	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	12	PCB @ TR27	130.0	91	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	13	T1 COIL	130.0	92	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	14	T1 CORE	130.0	93	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	15	T2 BODY	130.0	99	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	16	T3 BODY	130.0	98	
CHD250PS24:	17	C34 BODY	105.0	89	

Test Tables

24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby					
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	18	L9 COIL	130.0	85	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	19	PBC @ TR16	130.0	87	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	20	CON1 BODY	105.0	79	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	21	T1 COIL-SB	130.0	100	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	22	T1 CORE-SB	130.0	84	
CHD250PS24: 24V/4.52A,	23	C6 BODY-SB	105.0	87	

Test Tables

5V/0.5A (112.5W) Convection with 5V Stdby					
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	24	L1 COIL-SB	130.0	86	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	25	C14 BODY-SB	105.0	101	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	1	T AMBIENT	70.0	70	Tested at 264Vac, 50Hz; Duration:2h
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	2	FS1 BODY	125.0	81	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	3	L1 COIL	130.0	83	
CHD250PS24: 24V/4.52A, 5V/0.5A	4	L2 COIL	130.0	93	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(112.5W) Convection with 5V Stdby					
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	5	C64 BODY	105.0	87	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	6	OPTO 1 BODY	105.0	85	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	7	PCB @ TR5,D5	130.0	99	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	8	D24 BODY	140.0	99	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	9	L4 COIL	130.0	95	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W)	10	L3 COIL	130.0	97	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with 5V Stdby					
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	11	L5 COIL	130.0	94	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	12	PCB @ TR27	130.0	90	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	13	T1 COIL	130.0	91	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	14	T1 CORE	130.0	92	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	15	T2 BODY	130.0	97	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with	16	T3 BODY	130.0	95	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V Stdby					
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	17	C34 BODY	105.0	87	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	18	L9 COIL	130.0	84	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	19	PBC @ TR16	130.0	86	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	20	CON1 BODY	105.0	78	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	21	T1 COIL-SB	130.0	97	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	22	T1 CORE-SB	130.0	81	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	23	C6 BODY-SB	105.0	86	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	24	L1 COIL-SB	130.0	86	
CHD250PS24: 24V/4.52A, 5V/0.5A (112.5W) Convection with 5V Stdby	25	C14 BODY-SB	105.0	96	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	1	T AMBIENT	70.0	70	Tested at 90Vac, 50Hz; Duration 2h
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	2	FS1 BODY	125.0	84	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	3	L1 COIL	130.0	87	
CHD250PS24:	4	L2 COIL	130.0	98	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby					
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	5	C64 BODY	105.0	90	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	6	OPTO 1 BODY	105.0	88	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	7	PCB @ TR5,D5	130.0	105	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	8	D24 BODY	140.0	106	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	9	L4 COIL	130.0	101	
CHD250PS24: 24V/3.33A,	10	L3 COIL	130.0	107	

Test Tables

5V/0.5A (82.5W) Convection with Cover and 5V Stdby					
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	11	L5 COIL	130.0	96	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	12	PCB @ TR27	130.0	91	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	13	T1 COIL	130.0	92	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	14	T1 CORE	130.0	93	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	15	T2 BODY	130.0	99	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W)	16	T3 BODY	130.0	98	

Test Tables

Convection with Cover and 5V Stdby					
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	17	C34 BODY	105.0	89	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	18	L9 COIL	130.0	85	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	19	PBC @ TR16	130.0	87	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	20	CON1 BODY	105.0	79	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	21	T1 COIL-SB	130.0	100	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with	22	T1 CORE-SB	130.0	87	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover and 5V Stdby					
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	23	C6 BODY-SB	105.0	88	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	24	L1 COIL-SB	130.0	88	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	25	C14 BODY-SB	105.0	103	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	1	T AMBIENT	70.0	70	Tested at 264Vac, 50Hz; duration:2h
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	2	FS1 BODY	125.0	81	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V	3	L1 COIL	130.0	83	

Test Tables

Stdby					
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	4	L2 COIL	130.0	93	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	5	C64 BODY	105.0	87	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	6	OPTO 1 BODY	105.0	85	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	7	PCB @ TR5,D5	130.0	99	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	8	D24 BODY	140.0	99	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	9	L4 COIL	130.0	95	

Test Tables

CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	10	L3 COIL	130.0	97	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	11	L5 COIL	130.0	94	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	12	PCB @ TR27	130.0	90	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	13	T1 COIL	130.0	91	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	14	T1 CORE	130.0	92	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	15	T2 BODY	130.0	97	
CHD250PS24:	16	T3 BODY	130.0	95	

Test Tables

24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby					
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	17	C34 BODY	105.0	87	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	18	L9 COIL	130.0	84	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	19	PBC @ TR16	130.0	86	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	20	CON1 BODY	105.0	78	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	21	T1 COIL-SB	130.0	97	
CHD250PS24: 24V/3.33A,	22	T1 CORE-SB	130.0	84	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V/0.5A (82.5W) Convection with Cover and 5V Stdby					
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	23	C6 BODY-SB	105.0	86	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	24	L1 COIL-SB	130.0	87	
CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	25	C14 BODY-SB	105.0	98	
CHD250PS48: 48V/5.2A (250W) Convection	1	T AMBIENT	50	50	Tested at 90Vac, 50Hz; Duration:2h
CHD250PS48: 48V/5.2A (250W) Convection	2	FS1 BODY	125.0	96	
CHD250PS48: 48V/5.2A (250W) Convection	3	L1 COIL	130.0	99	
CHD250PS48: 48V/5.2A (250W) Convection	4	L2 COIL	130.0	107	
CHD250PS48: 48V/5.2A (250W)	5	C64 BODY	105.0	83	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS48: 48V/5.2A (250W) Convection	6	OPTO 1 BODY	105.0	87	
CHD250PS48: 48V/5.2A (250W) Convection	7	PCB @ TR5,D5	130.0	109	
CHD250PS48: 48V/5.2A (250W) Convection	8	D24 BODY	140.0	117	
CHD250PS48: 48V/5.2A (250W) Convection	9	L4 COIL	130.0	101	
CHD250PS48: 48V/5.2A (250W) Convection	10	L3 COIL	130.0	110	
CHD250PS48: 48V/5.2A (250W) Convection	11	L5 COIL	130.0	107	
CHD250PS48: 48V/5.2A (250W) Convection	12	PCB @ TR27	130.0	100	
CHD250PS48: 48V/5.2A (250W) Convection	13	T1 COIL	130.0	109	
CHD250PS48: 48V/5.2A (250W) Convection	14	T1 CORE	130.0	119	
CHD250PS48: 48V/5.2A (250W) Convection	15	T2 BODY	130.0	96	
CHD250PS48: 48V/5.2A (250W)	16	T3 BODY	130.0	87	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS48: 48V/5.2A (250W) Convection	17	C34 BODY	105.0	87	
CHD250PS48: 48V/5.2A (250W) Convection	18	L9 COIL	130.0	88	
CHD250PS48: 48V/5.2A (250W) Convection	19	PBC @ TR16	130.0	95	
CHD250PS48: 48V/5.2A (250W) Convection	20	CON1 BODY	105.0	73	
CHD250PS48: 48V/5.2A (250W) Convection	1	T AMBIENT	50	50	Tested at 100Vac, 50Hz: Duration:2h
CHD250PS48: 48V/5.2A (250W) Convection	2	FS1 BODY	125.0	90	
CHD250PS48: 48V/5.2A (250W) Convection	3	L1 COIL	130.0	93	
CHD250PS48: 48V/5.2A (250W) Convection	4	L2 COIL	130.0	99	
CHD250PS48: 48V/5.2A (250W) Convection	5	C64 BODY	105.0	80	
CHD250PS48: 48V/5.2A (250W) Convection	6	OPTO 1 BODY	105.0	85	
CHD250PS48: 48V/5.2A (250W)	7	PCB @ TR5,D5	130.0	101	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS48: 48V/5.2A (250W) Convection	8	D24 BODY	140.0	108	
CHD250PS48: 48V/5.2A (250W) Convection	9	L4 COIL	130.0	96	
CHD250PS48: 48V/5.2A (250W) Convection	10	L3 COIL	130.0	104	
CHD250PS48: 48V/5.2A (250W) Convection	11	L5 COIL	130.0	106	
CHD250PS48: 48V/5.2A (250W) Convection	12	PCB @ TR27	130.0	100	
CHD250PS48: 48V/5.2A (250W) Convection	13	T1 COIL	130.0	109	
CHD250PS48: 48V/5.2A (250W) Convection	14	T1 CORE	130.0	118	
CHD250PS48: 48V/5.2A (250W) Convection	15	T2 BODY	130.0	95	
CHD250PS48: 48V/5.2A (250W) Convection	16	T3 BODY	130.0	86	
CHD250PS48: 48V/5.2A (250W) Convection	17	C34 BODY	105.0	86	
CHD250PS48: 48V/5.2A (250W)	18	L9 COIL	130.0	88	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS48: 48V/5.2A (250W) Convection	19	PBC @ TR16	130.0	95	
CHD250PS48: 48V/5.2A (250W) Convection	20	CON1 BODY	105.0	71	
CHD250PS48: 48V/5.2A (250W) Convection	1	T AMBIENT	50	50	Tested at 240Vac, 50Hz, duration:2h
CHD250PS48: 48V/5.2A (250W) Convection	2	FS1 BODY	125.0	68	
CHD250PS48: 48V/5.2A (250W) Convection	3	L1 COIL	130.0	70	
CHD250PS48: 48V/5.2A (250W) Convection	4	L2 COIL	130.0	78	
CHD250PS48: 48V/5.2A (250W) Convection	5	C64 BODY	105.0	70	
CHD250PS48: 48V/5.2A (250W) Convection	6	OPTO 1 BODY	105.0	78	
CHD250PS48: 48V/5.2A (250W) Convection	7	PCB @ TR5,D5	130.0	83	
CHD250PS48: 48V/5.2A (250W) Convection	8	D24 BODY	140.0	86	
CHD250PS48: 48V/5.2A (250W)	9	L4 COIL	130.0	79	

Test Tables

Convection					
CHD250PS48: 48V/5.2A (250W) Convection	10	L3 COIL	130.0	83	
CHD250PS48: 48V/5.2A (250W) Convection	11	L5 COIL	130.0	102	
CHD250PS48: 48V/5.2A (250W) Convection	12	PCB @ TR27	130.0	98	
CHD250PS48: 48V/5.2A (250W) Convection	13	T1 COIL	130.0	108	
CHD250PS48: 48V/5.2A (250W) Convection	14	T1 CORE	130.0	116	
CHD250PS48: 48V/5.2A (250W) Convection	15	T2 BODY	130.0	91	
CHD250PS48: 48V/5.2A (250W) Convection	16	T3 BODY	130.0	81	
CHD250PS48: 48V/5.2A (250W) Convection	17	C34 BODY	105.0	83	
CHD250PS48: 48V/5.2A (250W) Convection	18	L9 COIL	130.0	86	
CHD250PS48: 48V/5.2A (250W) Convection	19	PBC @ TR16	130.0	94	
CHD250PS48: 48V/5.2A (250W)	20	CON1 BODY	105.0	60	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS48: 48V/5.2A (250W) Convection	1	T AMBIENT	50	50	Tested at 264Vac, 50Hz; Duration 2h
CHD250PS48: 48V/5.2A (250W) Convection	2	FS1 BODY	125.0	68	
CHD250PS48: 48V/5.2A (250W) Convection	3	L1 COIL	130.0	70	
CHD250PS48: 48V/5.2A (250W) Convection	4	L2 COIL	130.0	78	
CHD250PS48: 48V/5.2A (250W) Convection	5	C64 BODY	105.0	70	
CHD250PS48: 48V/5.2A (250W) Convection	6	OPTO 1 BODY	105.0	77	
CHD250PS48: 48V/5.2A (250W) Convection	7	PCB @ TR5,D5	130.0	83	
CHD250PS48: 48V/5.2A (250W) Convection	8	D24 BODY	140.0	86	
CHD250PS48: 48V/5.2A (250W) Convection	9	L4 COIL	130.0	78	
CHD250PS48: 48V/5.2A (250W) Convection	10	L3 COIL	130.0	81	
CHD250PS48: 48V/5.2A (250W)	11	L5 COIL	130.0	103	

Test Tables

Convection					
CHD250PS48: 48V/5.2A (250W) Convection	12	PCB @ TR27	130.0	98	
CHD250PS48: 48V/5.2A (250W) Convection	13	T1 COIL	130.0	108	
CHD250PS48: 48V/5.2A (250W) Convection	14	T1 CORE	130.0	116	
CHD250PS48: 48V/5.2A (250W) Convection	15	T2 BODY	130.0	91	
CHD250PS48: 48V/5.2A (250W) Convection	16	T3 BODY	130.0	80	
CHD250PS48: 48V/5.2A (250W) Convection	17	C34 BODY	105.0	83	
CHD250PS48: 48V/5.2A (250W) Convection	18	L9 COIL	130.0	86	
CHD250PS48: 48V/5.2A (250W) Convection	19	PBC @ TR16	130.0	94	
CHD250PS48: 48V/5.2A (250W) Convection	20	CON1 BODY	105.0	60	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	1	T AMBIENT	50	50	Tested at 90Vax, 50Hz, Duration:2h

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS48: 48V/4.52A (217W) Convection with Cover	2	FS1 BODY	125.0	85	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	3	L1 COIL	130.0	97	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	4	L2 COIL	130.0	112	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	5	C64 BODY	105.0	93	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	6	OPTO 1 BODY	105.0	85	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	7	PCB @ TR5,D5	130.0	122	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	8	D24 BODY	140.0	96	
CHD250PS48: 48V/4.52A	9	L4 COIL	130.0	103	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(217W) Convection with Cover					
CHD250PS48: 48V/4.52A (217W) Convection with Cover	10	L3 COIL	130.0	106	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	11	L5 COIL	130.0	107	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	12	PCB @ TR27	130.0	99	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	13	T1 COIL	130.0	106	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	14	T1 CORE	130.0	108	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	15	T2 BODY	130.0	97	
CHD250PS48: 48V/4.52A (217W) Convection with	16	T3 BODY	130.0	88	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover					
CHD250PS48: 48V/4.52A (217W) Convection with Cover	17	C34 BODY	105.0	86	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	18	L9 COIL	130.0	86	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	19	PBC @ TR16	130.0	93	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	20	CON1 BODY	105.0	74	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	1	T AMBIENT	50	50	Tested at 264Vac, 50Hz, Duration:2h
CHD250PS48: 48V/4.52A (217W) Convection with Cover	2	FS1 BODY	125.0	67	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	3	L1 COIL	130.0	72	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS48: 48V/4.52A (217W) Convection with Cover	4	L2 COIL	130.0	84	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	5	C64 BODY	105.0	78	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	6	OPTO 1 BODY	105.0	76	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	7	PCB @ TR5,D5	130.0	93	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	8	D24 BODY	140.0	79	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	9	L4 COIL	130.0	83	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	10	L3 COIL	130.0	86	
CHD250PS48: 48V/4.52A	11	L5 COIL	130.0	102	

Test Tables

(217W) Convection with Cover					
CHD250PS48: 48V/4.52A (217W) Convection with Cover	12	PCB @ TR27	130.0	96	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	13	T1 COIL	130.0	105	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	14	T1 CORE	130.0	106	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	15	T2 BODY	130.0	91	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	16	T3 BODY	130.0	81	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	17	C34 BODY	105.0	82	
CHD250PS48: 48V/4.52A (217W) Convection with	18	L9 COIL	130.0	84	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover					
CHD250PS48: 48V/4.52A (217W) Convection with Cover	19	PBC @ TR16	130.0	92	
CHD250PS48: 48V/4.52A (217W) Convection with Cover	20	CON1 BODY	105.0	63	
CHD250PS48: 48V/2.6A (125W) Convection	1	T AMBIENT	-	70	Tested at 90Vac, 50Hz; Duration:2h
CHD250PS48: 48V/2.6A (125W) Convection	2	FS1 BODY	125.0	87	
CHD250PS48: 48V/2.6A (125W) Convection	3	L1 COIL	130.0	88	
CHD250PS48: 48V/2.6A (125W) Convection	4	L2 COIL	130.0	94	
CHD250PS48: 48V/2.6A (125W) Convection	5	C64 BODY	105.0	86	
CHD250PS48: 48V/2.6A (125W) Convection	6	OPTO 1 BODY	105.0	88	
CHD250PS48: 48V/2.6A (125W) Convection	7	PCB @ TR5,D5	130.0	97	
CHD250PS48: 48V/2.6A (125W)	8	D24 BODY	140.0	100	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS48: 48V/2.6A (125W) Convection	9	L4 COIL	130.0	93	
CHD250PS48: 48V/2.6A (125W) Convection	10	L3 COIL	130.0	98	
CHD250PS48: 48V/2.6A (125W) Convection	11	L5 COIL	130.0	97	
CHD250PS48: 48V/2.6A (125W) Convection	12	PCB @ TR27	130.0	95	
CHD250PS48: 48V/2.6A (125W) Convection	13	T1 COIL	130.0	96	
CHD250PS48: 48V/2.6A (125W) Convection	14	T1 CORE	130.0	99	
CHD250PS48: 48V/2.6A (125W) Convection	15	T2 BODY	130.0	93	
CHD250PS48: 48V/2.6A (125W) Convection	16	T3 BODY	130.0	89	
CHD250PS48: 48V/2.6A (125W) Convection	17	C34 BODY	105.0	88	
CHD250PS48: 48V/2.6A (125W) Convection	18	L9 COIL	130.0	88	
CHD250PS48: 48V/2.6A (125W)	19	PBC @ TR16	130.0	90	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS48: 48V/2.6A (125W) Convection	20	CON1 BODY	105.0	79	
CHD250PS48: 48V/2.6A (125W) Convection	1	T AMBIENT	-	70	Tested at 100 Vac, 50 Hz, Duratio:2 h
CHD250PS48: 48V/2.6A (125W) Convection	2	FS1 BODY	125.0	81	
CHD250PS48: 48V/2.6A (125W) Convection	3	L1 COIL	130.0	82	
CHD250PS48: 48V/2.6A (125W) Convection	4	L2 COIL	130.0	88	
CHD250PS48: 48V/2.6A (125W) Convection	5	C64 BODY	105.0	85	
CHD250PS48: 48V/2.6A (125W) Convection	6	OPTO 1 BODY	105.0	85	
CHD250PS48: 48V/2.6A (125W) Convection	7	PCB @ TR5,D5	130.0	92	
CHD250PS48: 48V/2.6A (125W) Convection	8	D24 BODY	140.0	94	
CHD250PS48: 48V/2.6A (125W) Convection	9	L4 COIL	130.0	86	
CHD250PS48: 48V/2.6A (125W)	10	L3 COIL	130.0	89	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS48: 48V/2.6A (125W) Convection	11	L5 COIL	130.0	96	
CHD250PS48: 48V/2.6A (125W) Convection	12	PCB @ TR27	130.0	94	
CHD250PS48: 48V/2.6A (125W) Convection	13	T1 COIL	130.0	94	
CHD250PS48: 48V/2.6A (125W) Convection	14	T1 CORE	130.0	98	
CHD250PS48: 48V/2.6A (125W) Convection	15	T2 BODY	130.0	91	
CHD250PS48: 48V/2.6A (125W) Convection	16	T3 BODY	130.0	86	
CHD250PS48: 48V/2.6A (125W) Convection	17	C34 BODY	105.0	86	
CHD250PS48: 48V/2.6A (125W) Convection	18	L9 COIL	130.0	86	
CHD250PS48: 48V/2.6A (125W) Convection	19	PBC @ TR16	130.0	89	
CHD250PS48: 48V/2.6A (125W) Convection	20	CON1 BODY	105.0	76	
CHD250PS48: 48V/2.26A (108.5W)	1	T AMBIENT	-	70	Tested at 90Vac, 50Hz, Duration:2h

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with Cover					
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	2	FS1 BODY	125.0	85	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	3	L1 COIL	130.0	90	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	4	L2 COIL	130.0	100	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	5	C64 BODY	105.0	92	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	6	OPTO 1 BODY	105.0	89	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	7	PCB @ TR5,D5	130.0	106	
CHD250PS48: 48V/2.26A (108.5W) Convection with	8	D24 BODY	140.0	98	

Test Tables

Cover					
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	9	L4 COIL	130.0	101	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	10	L3 COIL	130.0	104	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	11	L5 COIL	130.0	101	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	12	PCB @ TR27	130.0	98	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	13	T1 COIL	130.0	98	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	14	T1 CORE	130.0	99	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	15	T2 BODY	130.0	97	

Test Tables

CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	16	T3 BODY	130.0	93	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	17	C34 BODY	105.0	90	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	18	L9 COIL	130.0	89	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	19	PBC @ TR16	130.0	92	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	20	CON1 BODY	105.0	82	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	1	T AMBIENT	-	70	Tested at 264Vac, 50Hz, duration:2h
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	2	FS1 BODY	125.0	81	
CHD250PS48: 48V/2.26A	3	L1 COIL	130.0	85	

Test Tables

(108.5W) Convection with Cover					
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	4	L2 COIL	130.0	93	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	5	C64 BODY	105.0	89	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	6	OPTO 1 BODY	105.0	86	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	7	PCB @ TR5,D5	130.0	100	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	8	D24 BODY	140.0	94	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	9	L4 COIL	130.0	93	
CHD250PS48: 48V/2.26A (108.5W) Convection with	10	L3 COIL	130.0	94	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover					
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	11	L5 COIL	130.0	99	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	12	PCB @ TR27	130.0	96	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	13	T1 COIL	130.0	96	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	14	T1 CORE	130.0	97	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	15	T2 BODY	130.0	94	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	16	T3 BODY	130.0	90	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	17	C34 BODY	105.0	88	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	18	L9 COIL	130.0	88	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	19	PBC @ TR16	130.0	90	
CHD250PS48: 48V/2.26A (108.5W) Convection with Cover	20	CON1 BODY	105.0	79	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	1	T AMBIENT	-	50	Tested at 90Vac, 50Hz, duration:2h
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	2	FS1 BODY	125.0	85	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	3	L1 COIL	130.0	97	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	4	L2 COIL	130.0	110	
CHD250PS48: 48V/4.58A,	5	C64 BODY	105.0	87	

Test Tables

5V/1A (225W) Convection with 5V Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	6	OPTO 1 BODY	105.0	93	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	7	PCB @ TR5,D5	130.0	108	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	8	D24 BODY	140.0	119	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	9	L4 COIL	130.0	112	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	10	L3 COIL	130.0	118	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	11	L5 COIL	130.0	105	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with	12	PCB @ TR27	130.0	96	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	13	T1 COIL	130.0	102	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	14	T1 CORE	130.0	109	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	15	T2 BODY	130.0	110	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	16	T3 BODY	130.0	105	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	17	C34 BODY	105.0	92	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	18	L9 COIL	130.0	89	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	19	PBC @ TR16	130.0	92	

Test Tables

CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	20	CON1 BODY	105.0	75	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	21	T1 COIL-SB	130.0	105	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	22	T1 CORE-SB	130.0	101	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	23	C6 BODY-SB	105.0	83	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	24	L1 COIL-SB	130.0	84	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	25	C14 BODY-SB	125.0	114	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	1	T AMBIENT	-	50	Tested at 264Vac, 50Hz; duration:2h
CHD250PS48: 48V/4.58A,	2	FS1 BODY	125.0	65	

Test Tables

5V/1A (225W) Convection with 5V Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	3	L1 COIL	130.0	72	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	4	L2 COIL	130.0	84	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	5	C64 BODY	105.0	74	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	6	OPTO 1 BODY	105.0	83	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	7	PCB @ TR5,D5	130.0	86	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	8	D24 BODY	140.0	91	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with	9	L4 COIL	130.0	89	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	10	L3 COIL	130.0	91	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	11	L5 COIL	130.0	100	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	12	PCB @ TR27	130.0	95	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	13	T1 COIL	130.0	102	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	14	T1 CORE	130.0	109	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	15	T2 BODY	130.0	104	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	16	T3 BODY	130.0	97	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	17	C34 BODY	105.0	88	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	18	L9 COIL	130.0	88	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	19	PBC @ TR16	130.0	92	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	20	CON1 BODY	105.0	62	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	21	T1 COIL-SB	130.0	99	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	22	T1 CORE-SB	130.0	94	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	23	C6 BODY-SB	105.0	81	
CHD250PS48: 48V/4.58A,	24	L1 COIL-SB	130.0	83	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V/1A (225W) Convection with 5V Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with 5V Stdby	25	C14 BODY-SB	125.0	99	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	1	T AMBIENT	-	50	Tested at 90Vac, 50Hz, Duration:1h:15min
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	2	FS1 BODY	125.0	76	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	3	L1 COIL	130.0	86	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	4	L2 COIL	130.0	102	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V	5	C64 BODY	105.0	80	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	6	OPTO 1 BODY	105.0	80	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	7	PCB @ TR5,D5	130.0	94	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	8	D24 BODY	140.0	103	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	9	L4 COIL	130.0	100	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	10	L3 COIL	130.0	105	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	11	L5 COIL	130.0	110	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	12	PCB @ TR27	130.0	102	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	13	T1 COIL	130.0	97	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	14	T1 CORE	130.0	101	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	15	T2 BODY	130.0	101	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	16	T3 BODY	130.0	97	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	17	C34 BODY	105.0	84	
CHD250PS48:	18	L9 COIL	130.0	82	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	19	PBC @ TR16	130.0	86	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	20	CON1 BODY	105.0	68	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	21	T1 COIL-SB	130.0	101	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	22	T1 CORE-SB	130.0	98	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	23	C6 BODY-SB	105.0	82	
CHD250PS48: 48V/4.58A,	24	L1 COIL-SB	130.0	83	

Test Tables

5V/1A (225W) Convection with Cover and 5V Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	25	C14 BODY-SB	125.0	103	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	1	T AMBIENT	-	50	Tested at 264Vac, 50Hz, duration:1h:15min
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	2	FS1 BODY	125.0	67	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	3	L1 COIL	130.0	72	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	4	L2 COIL	130.0	87	
CHD250PS48: 48V/4.58A, 5V/1A (225W)	5	C64 BODY	105.0	76	

Test Tables

Convection with Cover and 5V Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	6	OPTO 1 BODY	105.0	75	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	7	PCB @ TR5,D5	130.0	86	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	8	D24 BODY	140.0	90	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	9	L4 COIL	130.0	87	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	10	L3 COIL	130.0	89	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with	11	L5 COIL	130.0	105	

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Test Tables

Cover and 5V Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	12	PCB @ TR27	130.0	99	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	13	T1 COIL	130.0	95	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	14	T1 CORE	130.0	99	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	15	T2 BODY	130.0	97	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	16	T3 BODY	130.0	92	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V	17	C34 BODY	105.0	82	

Test Tables

Stdby					
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	18	L9 COIL	130.0	80	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	19	PBC @ TR16	130.0	84	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	20	CON1 BODY	105.0	85	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	21	T1 COIL-SB	130.0	96	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	22	T1 CORE-SB	130.0	93	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	23	C6 BODY-SB	105.0	80	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	24	L1 COIL-SB	130.0	81	
CHD250PS48: 48V/4.58A, 5V/1A (225W) Convection with Cover and 5V Stdby	25	C14 BODY-SB	125.0	94	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	1	T AMBIENT	-	70	Tested at 90Vac, 50Hz, duration:2h
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	2	FS1 BODY	125.0	83	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	3	L1 COIL	130.0	89	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	4	L2 COIL	130.0	99	
CHD250PS48:	5	C64 BODY	105.0	88	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby					
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	6	OPTO 1 BODY	105.0	92	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	7	PCB @ TR5,D5	130.0	99	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	8	D24 BODY	140.0	103	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	9	L4 COIL	130.0	100	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	10	L3 COIL	130.0	103	
CHD250PS48: 48V/2.29A,	11	L5 COIL	130.0	99	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V/0.5A (112.5W) Convection with 5V Stdby					
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	12	PCB @ TR27	130.0	96	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	13	T1 COIL	130.0	96	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	14	T1 CORE	130.0	100	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	15	T2 BODY	130.0	102	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	16	T3 BODY	130.0	99	
CHD250PS48: 48V/2.29A, 5V/0.5A	17	C34 BODY	105.0	92	

Test Tables

(112.5W) Convection with 5V Stdby					
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	18	L9 COIL	130.0	90	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	19	PBC @ TR16	130.0	90	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	20	CON1 BODY	105.0	80	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	21	T1 COIL-SB	130.0	100	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	22	T1 CORE-SB	130.0	97	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W)	23	C6 BODY-SB	105.0	88	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with 5V Stdby					
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	24	L1 COIL-SB	130.0	88	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	25	C14 BODY-SB	105	103	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	1	T AMBIENT	-	70	Tested at 264Vac, 50Hz, duration 2h
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	2	FS1 BODY	125.0	80	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	3	L1 COIL	130.0	85	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with	4	L2 COIL	130.0	94	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V Stdby					
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	5	C64 BODY	105.0	88	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	6	OPTO 1 BODY	105.0	89	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	7	PCB @ TR5,D5	130.0	95	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	8	D24 BODY	140.0	97	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	9	L4 COIL	130.0	93	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	10	L3 COIL	130.0	96	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	11	L5 COIL	130.0	98	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	12	PCB @ TR27	130.0	95	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	13	T1 COIL	130.0	95	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	14	T1 CORE	130.0	99	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	15	T2 BODY	130.0	99	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	16	T3 BODY	130.0	96	
CHD250PS48:	17	C34 BODY	105.0	90	

Test Tables

48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby					
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	18	L9 COIL	130.0	89	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	19	PBC @ TR16	130.0	90	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	20	CON1 BODY	105.0	78	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	21	T1 COIL-SB	130.0	98	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	22	T1 CORE-SB	130.0	95	
CHD250PS48: 48V/2.29A,	23	C6 BODY-SB	105.0	87	

Test Tables

5V/0.5A (112.5W) Convection with 5V Stdby					
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	24	L1 COIL-SB	130.0	88	
CHD250PS48: 48V/2.29A, 5V/0.5A (112.5W) Convection with 5V Stdby	25	C14 BODY-SB	105	99	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	1	T AMBIENT	-	70	Tested at 90Vac, 50Hz, Duration: 1h:15min
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	2	FS1 BODY	125.0	84	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	3	L1 COIL	130.0	89	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W)	4	L2 COIL	130.0	100	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection with Cover and 5V Stdby					
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	5	C64 BODY	105.0	89	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	6	OPTO 1 BODY	105.0	89	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	7	PCB @ TR5,D5	130.0	98	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	8	D24 BODY	140.0	101	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	9	L4 COIL	130.0	99	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with	10	L3 COIL	130.0	102	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover and 5V Stdby					
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	11	L5 COIL	130.0	106	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	12	PCB @ TR27	130.0	102	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	13	T1 COIL	130.0	97	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	14	T1 CORE	130.0	100	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	15	T2 BODY	130.0	101	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V	16	T3 BODY	130.0	99	

Test Tables

Stdby					
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	17	C34 BODY	105.0	91	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	18	L9 COIL	130.0	89	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	19	PBC @ TR16	130.0	91	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	20	CON1 BODY	105.0	81	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	21	T1 COIL-SB	130.0	100	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	22	T1 CORE-SB	130.0	99	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	23	C6 BODY-SB	105.0	89	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	24	L1 COIL-SB	130.0	89	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	25	C14 BODY-SB	105	102	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	1	T AMBIENT	-	70	Tested at 264Vac, 50Hz, Duration:1h:15min
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	2	FS1 BODY	125.0	83	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	3	L1 COIL	130.0	86	
CHD250PS48:	4	L2 COIL	130.0	96	

Test Tables

48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby					
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	5	C64 BODY	105.0	90	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	6	OPTO 1 BODY	105.0	87	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	7	PCB @ TR5,D5	130.0	96	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	8	D24 BODY	140.0	98	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	9	L4 COIL	130.0	94	
CHD250PS48: 48V/1.67A,	10	L3 COIL	130.0	97	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

5V/0.5A (82.5W) Convection with Cover and 5V Stdby					
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	11	L5 COIL	130.0	105	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	12	PCB @ TR27	130.0	102	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	13	T1 COIL	130.0	96	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	14	T1 CORE	130.0	99	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	15	T2 BODY	130.0	100	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W)	16	T3 BODY	130.0	97	

Test Tables

Convection with Cover and 5V Stdby					
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	17	C34 BODY	105.0	90	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	18	L9 COIL	130.0	88	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	19	PBC @ TR16	130.0	90	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	20	CON1 BODY	105.0	80	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	21	T1 COIL-SB	130.0	98	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with	22	T1 CORE-SB	130.0	97	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Cover and 5V Stdby					
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	23	C6 BODY-SB	105.0	88	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	24	L1 COIL-SB	130.0	89	
CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby	25	C14 BODY-SB	105	100	
CHD250PS12: 12V/16.67A (200W) Convection	1	T AMBIENT	70.0	70.0	Tested at 90Vac, 50Hz, duration: 2h
CHD250PS12: 12V/16.67A (200W) Convection	2	FS1 BODY	125.0	84.1	
CHD250PS12: 12V/16.67A (200W) Convection	3	L1 COIL	130.0	89.2	
CHD250PS12: 12V/16.67A (200W) Convection	4	L2 COIL	130.0	99.7	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS12: 12V/16.67A (200W) Convection	5	C64 BODY	105.0	80.8	
CHD250PS12: 12V/16.67A (200W) Convection	6	OPTO 1 BODY	105.0	92.0	
CHD250PS12: 12V/16.67A (200W) Convection	7	PCB @ TR5,D5	130.0	101.4	
CHD250PS12: 12V/16.67A (200W) Convection	8	D24 BODY	140.0	108.6	
CHD250PS12: 12V/16.67A (200W) Convection	9	L4 COIL	130.0	104.2	
CHD250PS12: 12V/16.67A (200W) Convection	10	L3 COIL	130.0	107.7	
CHD250PS12: 12V/16.67A (200W) Convection	11	L5 COIL	130.0	106.4	
CHD250PS12: 12V/16.67A (200W) Convection	12	PCB @ TR27	130.0	99.5	
CHD250PS12: 12V/16.67A (200W)	13	T1 COIL	130.0	108.0	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS12: 12V/16.67A (200W) Convection	14	T1 CORE	130.0	108.9	
CHD250PS12: 12V/16.67A (200W) Convection	15	T2 BODY	130.0	99.0	
CHD250PS12: 12V/16.67A (200W) Convection	16	T3 BODY	130.0	95.8	
CHD250PS12: 12V/16.67A (200W) Convection	17	C34 BODY	105.0	98.6	
CHD250PS12: 12V/16.67A (200W) Convection	18	L9 COIL	130.0	100.0	
CHD250PS12: 12V/16.67A (200W) Convection	19	PBC @ TR16	130.0	107.2	
CHD250PS12: 12V/16.67A (200W) Convection	20	CON1 BODY	105.0	95.5	
CHD250PS12: 12V/16.67A (200W) Convection	1	T AMBIENT	70.0	70.0	Tested at 264Vac, 50Hz, duration: 2h
CHD250PS12: 12V/16.67A	2	FS1 BODY	125.0	69.6	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(200W) Convection					
CHD250PS12: 12V/16.67A (200W) Convection	3	L1 COIL	130.0	73.4	
CHD250PS12: 12V/16.67A (200W) Convection	4	L2 COIL	130.0	83.3	
CHD250PS12: 12V/16.67A (200W) Convection	5	C64 BODY	105.0	74.6	
CHD250PS12: 12V/16.67A (200W) Convection	6	OPTO 1 BODY	105.0	85.2	
CHD250PS12: 12V/16.67A (200W) Convection	7	PCB @ TR5,D5	130.0	84.9	
CHD250PS12: 12V/16.67A (200W) Convection	8	D24 BODY	140.0	88.8	
CHD250PS12: 12V/16.67A (200W) Convection	9	L4 COIL	130.0	85.5	
CHD250PS12: 12V/16.67A (200W) Convection	10	L3 COIL	130.0	86.3	
CHD250PS12:	11	L5 COIL	130.0	105.0	

Test Tables

12V/16.67A (200W) Convection					
CHD250PS12: 12V/16.67A (200W) Convection	12	PCB @ TR27	130.0	98.2	
CHD250PS12: 12V/16.67A (200W) Convection	13	T1 COIL	130.0	109.0	
CHD250PS12: 12V/16.67A (200W) Convection	14	T1 CORE	130.0	108.1	
CHD250PS12: 12V/16.67A (200W) Convection	15	T2 BODY	130.0	92.7	
CHD250PS12: 12V/16.67A (200W) Convection	16	T3 BODY	130.0	87.5	
CHD250PS12: 12V/16.67A (200W) Convection	17	C34 BODY	105.0	98.1	
CHD250PS12: 12V/16.67A (200W) Convection	18	L9 COIL	130.0	103.0	
CHD250PS12: 12V/16.67A (200W) Convection	19	PBC @ TR16	130.0	110.0	

Test Tables

CHD250PS12: 12V/16.67A (200W) Convection	20	CON1 BODY	105.0	84.8	
CHD250PS48: 48V/4.17A (200W) Convection	1	T AMBIENT	-	70.0	Tested at 90Vac, 50Hz, duration 2h
CHD250PS48: 48V/4.17A (200W) Convection	2	FS1 BODY	125.0	105.0	
CHD250PS48: 48V/4.17A (200W) Convection	3	L1 COIL	130.0	115.0	
CHD250PS48: 48V/4.17A (200W) Convection	4	L2 COIL	130.0	120.0	
CHD250PS48: 48V/4.17A (200W) Convection	5	C64 BODY	105.0	99.0	
CHD250PS48: 48V/4.17A (200W) Convection	6	OPTO 1 BODY	105.0	94.0	
CHD250PS48: 48V/4.17A (200W) Convection	7	PCB @ TR5,D5	130.0	122.0	
CHD250PS48: 48V/4.17A (200W)	8	D24 BODY	140.0	127.0	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

Convection					
CHD250PS48: 48V/4.17A (200W) Convection	9	L4 COIL	130.0	117.0	
CHD250PS48: 48V/4.17A (200W) Convection	10	L3 COIL	130.0	108.0	
CHD250PS48: 48V/4.17A (200W) Convection	11	L5 COIL	130.0	119.0	
CHD250PS48: 48V/4.17A (200W) Convection	12	PCB @ TR27	130.0	110.0	
CHD250PS48: 48V/4.17A (200W) Convection	13	T1 COIL	130.0	111.0	
CHD250PS48: 48V/4.17A (200W) Convection	14	T1 CORE	130.0	120.0	
CHD250PS48: 48V/4.17A (200W) Convection	15	T2 BODY	130.0	103.0	
CHD250PS48: 48V/4.17A (200W) Convection	16	T3 BODY	130.0	98.0	
CHD250PS48: 48V/4.17A	17	C34 BODY	105.0	95.0	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

(200W) Convection					
CHD250PS48: 48V/4.17A (200W) Convection	18	L9 COIL	130.0	99.0	
CHD250PS48: 48V/4.17A (200W) Convection	19	PBC @ TR16	130.0	106.0	
CHD250PS48: 48V/4.17A (200W) Convection	20	CON1 BODY	105.0	95.0	
CHD250PS48: 48V/4.17A (200W) Convection	1	T AMBIENT	-	70.0	Tested at 264Vac, 50; duration 2h
CHD250PS48: 48V/4.17A (200W) Convection	2	FS1 BODY	125.0	98.0	
CHD250PS48: 48V/4.17A (200W) Convection	3	L1 COIL	130.0	114.0	
CHD250PS48: 48V/4.17A (200W) Convection	4	L2 COIL	130.0	112.0	
CHD250PS48: 48V/4.17A (200W) Convection	5	C64 BODY	105.0	91.0	
CHD250PS48:	6	OPTO 1 BODY	105.0	88.0	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

48V/4.17A (200W) Convection					
CHD250PS48: 48V/4.17A (200W) Convection	7	PCB @ TR5,D5	130.0	101.0	
CHD250PS48: 48V/4.17A (200W) Convection	8	D24 BODY	140.0	105.0	
CHD250PS48: 48V/4.17A (200W) Convection	9	L4 COIL	130.0	96.0	
CHD250PS48: 48V/4.17A (200W) Convection	10	L3 COIL	130.0	92.0	
CHD250PS48: 48V/4.17A (200W) Convection	11	L5 COIL	130.0	116.0	
CHD250PS48: 48V/4.17A (200W) Convection	12	PCB @ TR27	130.0	107.0	
CHD250PS48: 48V/4.17A (200W) Convection	13	T1 COIL	130.0	108.0	
CHD250PS48: 48V/4.17A (200W) Convection	14	T1 CORE	130.0	116.0	

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

CHD250PS48: 48V/4.17A (200W) Convection	15	T2 BODY	130.0	99.0	
CHD250PS48: 48V/4.17A (200W) Convection	16	T3 BODY	130.0	92.0	
CHD250PS48: 48V/4.17A (200W) Convection	17	C34 BODY	105.0	93.0	
CHD250PS48: 48V/4.17A (200W) Convection	18	L9 COIL	130.0	97.0	
CHD250PS48: 48V/4.17A (200W) Convection	19	PBC @ TR16	130.0	104.0	
CHD250PS48: 48V/4.17A (200W) Convection	20	CON1 BODY	105.0	89.0	

Supplementary Information:

Where:
tm = measured temperature
tc = tm corrected (tm−ta+ 40 °C or max. RATED ambient).
tmax = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM2

1 When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.
2 Maximum allowable temperature on surfaces of test corner is 90 °C
3 Max temperature determined in accordance with 11.1.3 e)
4 Record duration time for each test run.

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

11.1.3d	TABLE: Temperature of windings by change-of-resistance method						N/A
Temperature T of winding:	t1 (°C)	R1 (Ω)	t2 (°C)	R2 (Ω)	ΔT (°C)	Allowed Tmax (°C)	Insulation class
Supplementary Information: 1 Max temperature determined in accordance with 11.1.3 e)							

Test Tables

11.2.2.1	TABLE: Alternative method to 11.2.2.1 a) 5) to determine existence of an ignition source		N/A
Areas where sparking might cause ignition:		Remarks	
1			
2			
3			
4			
5			
6			
Materials of the parts between which sparks could occur (Composition, Grade Designation, Manufacturer):		Remarks	
1			
2			
3			
4			
5			
6			

Test parameters selected representing worst case conditions for ME EQUIPMENT and location/material tested:		Remarks
Oxygen concentration (%) :		
Fuel :		
Current (A) :		
Voltage (V) :		
Capacitance (μF) :		
Inductance or resistance (h or Ω) :		
No. of trials (300 Min) :		
Sparks resulted in ignition (Yes/No) :		

Supplementary Information:

Test procedure of 11.2.2.1 a) 5) & Figs 35-37 used for tests. For circuits not in Figs 35-37, test voltage or current set at 3 times the worst case values with other parameters set at worst case values to determine if ignition can occur.

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

11.6.1	TABLE: **overflow**, spillage, leakage, ingress of water, cleaning, disinfection, sterilization, compatibility with substances		N/A
Clause / Test Name	**Test Condition**	**Part under test**	**Remarks**
Cl. 11.6.2, Overflow			
Supplementary Information: None			

11.6.1	TABLE: overflow, **spillage**, leakage, ingress of water, cleaning, disinfection, sterilization, compatibility with substances		N/A
Clause / Test Name	**Test Condition**	**Part under test**	**Remarks**
Supplementary Information: None			

11.6.1	TABLE: overflow, spillage, **leakage**, ingress of water, cleaning, disinfection, sterilization, compatibility with substances		N/A
Clause / Test Name	**Test Condition**	**Part under test**	**Remarks**
Supplementary Information:			

Test Tables

11.6.1	**TABLE:** overflow, spillage, leakage, **ingress of water**, cleaning, disinfection, sterilization, compatibility with substances		N/A
Clause / Test Name	**Test Condition**	**Part under test**	**Remarks**
Supplementary Information:			

11.6.1	**TABLE:** overflow, spillage, leakage, ingress of water, **cleaning**, disinfection, sterilization, compatibility with substances		N/A
Clause / Test Name	**Test Condition**	**Part under test**	**Remarks**
Supplementary Information: None			

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

11.6.1	TABLE: overflow, spillage, leakage, ingress of water, cleaning, disinfection, sterilization, compatibility with substances		N/A
Clause / Test Name	**Test Condition**	**Part under test**	**Remarks**
Supplementary Information:			

13.1.2	TABLE: measurement of power or energy dissipation in parts & components to waive SINGLE FAULT CONDITIONS in 4.7, 8.1 b), 8.7.2, and 13.2.2 relative to emission of flames, molten metal, or ignitable substances			N/A
Power dissipated less than (W):			15	
Energy dissipated less than (J):			900	
Part or component tested	**Measured power dissipated (W)**	**Calculated energy dissipated (J)**	**SINGLE FAULT CONDITIONS waived (Yes/No)**	**Remarks**
Supplementary Information: Secondary cricuits are measured to determine the acceptability per 13.1.2 of IEC 60601-1 +AM1 - LIMIT is 60 Vdc or 42.4 Vpeak, 100VA or 6000J in SFC. Other circuits are evaluated for energy less the 15W or energy dissipated lass than 900J.				

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

13.2	TABLE: SINGLE FAULT CONDITIONS in accordance with 13.2.2 to 13.2.13, inclusive		Pass
Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION [Yes/No]
13.2.2	Electrical single fault conditions according to 8.1:	-	-
13.2.2	SHORT: TR15, D/S	NB,NT,NC- Output shutdown when short was applied. Recovered after short was removed. Monitored for SELV, voltage was 0V < 0.2 sec. T1: 41°C, T2: 39°C, T3: 38°C, T1 Stdby: 60°C, TA: 25°C; Tested at 264Vac/60Hz, Duration:2h Leakage:NC: 180 uA; SFC: 353 uA	No
13.2.2	SHORT: OPTO 1, PIN 1 to 2	NB,NT,NC- Unit remained stable during short. T1: 112°C, T2: 105°C, T3: 99°C, T1 Stdby: 99°C, TA: 25°C Tested at 264Vac/60Hz, Duration:2h:0m:0s Leakage:NC: 138 uA; SFC: 264 uA	No
13.2.2	SHORT: OPTO 1, PIN 3 to 4	NB,NT,NC- Unit remained stable during short. T1: 34°C, T2: 41°C, T3: 42°C, T1 Stdby: 51°C, TA: 25°C Tested at 264Vac/60Hz, Duration:2h Leakage:NC: 191 uA; SFC: 368 uA	No
13.2.2	SHORT: L3, PIN 1 to 2	NB,NT,NC- Unit remained stable during short. T1: 115°C, T2: 111°C, T3: 106°C, T1 Stdby: 105°C, TA: 25°C Tested at 264Vac/60Hz, Duration:2h Leakage:NC: 131 uA; SFC: 255uA	No
13.2.2	SHORT: C12, (+ to -)	NB,NT,NC- FS1,FS2 opened immediately. T1: 31°C, T2: 30°C, T3: 29°C, T1 Stdby: 30°C, TA: 25°C, Tested at 264Vac/60Hz, Duration:1s Leakage:NC: 138 uA; SFC:258uA (*)	No

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

13.2.2	SHORT: C12	NB,NT,NC- Both FS1,FS2 opened immediately. T1: 29°C, T2: 29°C, T3: 28°C, T1 Stdby: 29°C, TA: 25°C; Tested at 264Vac/60Hz, Duration:1s Leakage:NC: 135 uA; SFC: 254 uA	No
13.2.2	SHORT: TR2, D/S	NB,NT,NC- Both FS1,FS2 opened immediately. T1: 30°C, T2: 29°C, T3: 29°C, T1 Stdby: 29°C, TA: 25°C; Tested at 264Vac/60Hz, Duration:1s Leakage:NC: 138 uA; SFC: 257 uA	No
13.2.2	SHORT: D24, A/C	NB,NT,NC- Both FS1,FS2 opened immediately. T1: 30°C, T2: 30°C, T3: 29°C, T1 Stdby: 28°C, TA: 25°C, Tested at 264Vac/60Hz, Duration:1s Leakage:NC: 137 uA; SFC: 255 uA	No
13.2.2	SHORT: TR4, D/S	NB,NT,NC- Both FS1,FS2 opened immediately. T1: 29°C, T2: 29°C, T3: 29°C, T1 Stdby: 27°C, TA: 25°C, Tested at 264Vac/60Hz, Duration:1s Leakage:NC: 134 uA; SFC: 253 uA	No

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

13.2.6	Leakage of liquid - risk management file examined to determine the appropriate test conditions (sealed rechargeable batteries exempted):	-	N/A
13.2.6			N/A
13.2.6			N/A
13.2.6			N/A
13.2.6			N/A
13.2.11	Failures of components in ME equipment used in conjunction with oxygen rich environments: See 11.2.2	-	N/A
13.2.12	Failure of parts that might result in a mechanical hazard: See 9 & 15.3 - [AM1: including RISK CONTROLS to address moving parts (9.2.2.4.4)]	-	N/A
15.4.3.5	Short circuit on battery		N/A

Supplementary Information:

See Table 11 for Temperatures obtained during the indicated Abnormal Operation tests.

Where: NB:No indication of dielectric breakdown; NT - Tissue paper remained intact; NC - Cheesecloth remained intact

*Dielectric Test conducted at 4352Vac from Primary to Secondary

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

13.2	TABLE: SINGLE FAULT CONDITIONS in accordance with 13.2.2 to 13.2.13, inclusive, continued		N/A
Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION (Yes/No)
13.2.4	Failure of thermostats according to 13.2.13 & 15.4.2, overloading - thermostats short circuited or interrupted, the less favorable of the two:	-	N/A
13.2.4			N/A
13.2.4			N/A
13.2.4			N/A
13.2.4			N/A
13.2.5	Failure of temperature limiting devices according to 13.2.13 & 15.4.2, overloading, thermostats short circuited or interrupted, the less favorable of the two:	-	N/A
13.2.5			N/A
13.2.5			N/A
13.2.5			N/A
13.2.5			N/A
See Table 11 for Temperatures obtained during the indicated Abnormal Operation tests.		See Tables above	Pass
Supplementary Information: See Table 11 for Temperatures obtained during the indicated Abnormal Operation tests.			

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

13.2	TABLE: SINGLE FAULT CONDITIONS in accordance with 13.2.2 to 13.2.13, inclusive, continued		N/A
Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION (Yes/No)
13.2.7	Impairment of cooling that could result in a hazard using test method of 11.1:	-	N/A
13.2.7	Single ventilation fans locked consecutively		N/A
13.2.7	Ventilation openings on top and sides impaired by covering openings on top of enclosure or positioning of me equipment against walls		N/A
13.2.7	Blocking of filters simulated		N/A
13.2.7	Flow of a cooling agent interrupted		N/A
13.2.7			N/A

Supplementary Information:

See Table 11 for Temperatures obtained during the indicated Abnormal Operation tests.

Test Tables

13.2	TABLE: SINGLE FAULT CONDITIONS in accordance with 13.2.2 to 13.2.13, inclusive, continued		N/A
Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION [Yes/No]
13.2.8	Locking of moving parts - Only one part locked at a time - Also see 13.2.10 below:	-	N/A
13.2.8			N/A
13.2.8			N/A
13.2.8			N/A
13.2.8			N/A
13.2.10	Additional test criteria for motor operated ME equipment in 13.2.8 & 13.2.9:	-	N/A
13.2.10	For every test in single fault condition of 13.2.8 and 13.2.9, except as stated in 13.1.2, motor-operated ME equipment started from cold condition at rated voltage or at the upper limit of rated voltage range for the following periods of time:	-	N/A
13.2.10	a) 30 s for: - hand-held ME equipment - ME equipment that has to be kept switched on by hand - ME equipment that has to be kept under physical load by hand	-	N/A
13.2.10	b) 5 min for other ME equipment intended only for attended use (excluding automated or remotely controlled ME equipment operating when operator is not present)	-	N/A
13.2.10	c) for maximum period of a timer when such a device terminates operation for me equipment not listed under a) or b) above	-	N/A
13.2.10	d) as long as necessary to establish thermal stability for all remaining me equipment	-	N/A
13.2.10	Temperatures of windings determined at the end of specified test periods or at the instant of operation of fuses, thermal cut-outs, motor protective devices and the like		N/A
13.2.10	Temperatures measured as specified in 11.1.3 d)		N/A

Test Tables

13.2.10	Temperatures did not exceed limits of Table 26		N/A

Supplementary Information:

See Table 11 for Temperatures obtained during the indicated Abnormal Operation tests.Includes details from clause 13.2.10 for additional test criteria for motor operated equipment.

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

13.2	TABLE: SINGLE FAULT CONDITIONS in accordance with 13.2.2 to 13.2.13, inclusive, continued		N/A
Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION (Yes/No)
13.2.9	Interruption and short circuiting of motor capacitors - Motor capacitors short & open circuited 1. Also see SUPPLEMENTARY INFORMATION note 1 below and 13.2.10 below.	-	N/A
13.2.9			N/A
13.2.9			N/A
13.2.9			N/A
13.2.9			N/A
13.2.10	Additional test criteria for motor operated ME equipment in 13.2.8 & 13.2.9:	-	N/A
13.2.10	For every test in single fault condition of 13.2.8 and 13.2.9, except as stated in 13.1.2, motor-operated ME equipment started from cold condition at rated voltage or at the upper limit of rated voltage range for the following periods of time:	-	N/A
13.2.10	a) 30 s for: - hand-held ME equipment - ME equipment that has to be kept switched on by hand - ME equipment that has to be kept under physical load by hand	-	N/A
13.2.10	b) 5 min for other ME equipment intended only for attended use (excluding automated or remotely controlled ME equipment operating when operator is not present)	-	N/A
13.2.10	c) for maximum period of a timer when such a device terminates operation for me equipment not listed under a) or b) above	-	N/A
13.2.10	d) as long as necessary to establish thermal stability for all remaining me equipment	-	N/A
13.2.10	Temperatures of windings determined at the end of specified test periods or at the instant of operation of fuses, thermal cut-outs, motor protective devices and the like		N/A
13.2.10	Temperatures measured as specified in 11.1.3 d)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

13.2.10	Temperatures did not exceed limits of Table 26		N/A

Supplementary Information:

1 Test with short-circuited capacitor not performed when motor provided with a capacitor complying with IEC 60252-1 and the me equipment not intended for unattended use including automatic or remote control. See Attachment # and appended Table 8.10. See Table 11 for Temperatures obtained during the indicated Abnormal Operation tests. Includes details from clause 13.2.10 for additional test criteria for motor operated equipment.

13.2	TABLE: SINGLE FAULT CONDITIONS in accordance with 13.2.2 to 13.2.13, inclusive, continued		N/A
Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION [Yes/No]
13.2.13	Overload: See 13.2.13.2 to 13.2.13.4 (inclusive)	-	N/A
13.2.13	ME equipment remained safe after tests of 13.2.13.2 to 13.2.13.4 (inclusive), and cooling down to room temperature		N/A
13.2.13	ME equipment examined for compliance or appropriate tests such as dielectric strength of motor insulation according to 8.8.3 conducted		N/A
13.2.13	For insulation of thermoplastic materials relied upon as a means of protection (see 8.8), the ball-pressure test specified in 8.8.4.1 a) performed at a temperature 25 °C higher than temperature of insulation measured during tests of 13.2.13.2 to 13.2.13.4 (inclusive).		N/A

Supplementary Information:

See Table 11 for Temperatures obtained during the indicated Abnormal Operation tests.

Test Tables

13.2	TABLE: SINGLE FAULT CONDITIONS in accordance with 13.2.2 to 13.2.13, inclusive, continued		N/A
Clause No.	Description of SINGLE FAULT CONDITION	Results observed	HAZARDOUS SITUATION [Yes/No]
13.2.13	Overload: See 13.2.13.2 to 13.2.13.4 (Inclusive)	-	N/A
13.2.13	ME equipment remained safe after tests of 13.2.13.2 to 13.2.13.4 (Inclusive), and cooling down to room temperature		N/A
13.2.13	ME equipment examined for compliance or appropriate tests such as dielectric strength of motor insulation according to 8.8.3 conducted		N/A
13.2.13	For insulation of thermoplastic materials relied upon as a means of protection (see 8.8), the ball-pressure test specified in 8.8.4.1 a) performed at a temperature 25 °C higher than temperature of insulation measured during tests of 13.2.13.2 to 13.2.13.4 (Inclusive).		N/A

Supplementary Information:

See Table 11 for Temperatures obtained during the indicated Abnormal Operation tests.

15.3	TABLE: Mechanical Strength tests		N/A
Clause	Name of Test	Test Conditions	Observed results/Remarks

Supplementary Information:

None

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

15.3	TABLE: Mechanical Strength tests, continued		N/A
Clause	Name of Test	Test Conditions	Observed results/Remarks
Supplementary Information: None			

15.3	TABLE: Mechanical Strength tests, continued		N/A
Clause	Name of Test	Test Conditions	Observed results/Remarks
Supplementary Information: From Table 29: Mass (m) of PORTABLE ME EQUIPMENT or its accessories and parts (kg) Drop height (cm) m ≤ 10 5 10 < m ≤ 50 3 m > 50 2			

15.3	TABLE: Mechanical Strength tests, continued		N/A
Clause	Name of Test	Test Conditions	Observed results/Remarks
Supplementary Information: NOTE: After each test, any damage sustained that results in an unacceptable RISK, as determined by inspection of the RISK MANAGEMENT FILE and inspection of the ME EQUIPMENT or the ME EQUIPMENT parts that are MOBILE, constitutes a failure.			

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

15.3	TABLE: Mechanical Strength tests, continued		N/A
Clause	Name of Test	Test Conditions	Observed results/Remarks

Supplementary Information:
+70°C or Max. Temp. + 10°C

15.4.6	TABLE: actuating parts of controls of ME EQUIPMENT – torque & axial pull tests				N/A
Rotating control under test	Gripping diameter "d" of control knob (mm)1	Torque from Table 30 (Nm)	Axial force applied (N)	Unacceptable RISK occurred Yes/No	Remarks

Supplementary Information:
1 Gripping diameter (d) is the maximum width of a control knob regardless of its shape (e.g. control knob with pointer)

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Clause	Requirement + Test	Result - Remark	Verdict

Test Tables

15.5.1.2	TABLE: transformer short circuit test short-circuit applied at end of windings or at the first point that could be short circuited under SINGLE FAULT CONDITION						Pass
Primary voltage (most adverse value from 90 % to 110 % of RATED voltage)(V)1:						264Vac	-
RATED input frequency (Hz):						60	-
Winding tested	Class of insulation (A, B, E, F, or H)	Type of protective device (fuse, circuit breaker) /Ratings	Protective device operated Yes/No	Time to THERMAL STABILITY (when protective device did not operate)(Min)	Maximum allowed temp from Table 31 (°C)	Maximum winding temp measured °C)	Ambient (°C)
CHD250PS12: T1, Pin 9 to 12, Short	F	Fuse 250V/5A	No	120min	180	T1: 53°C, T2: 54°C, T3: 54°C, T1 Stdby: 58°C (1)	25
CHD250PS12: T2, Pin 3 to 4	F	Fuse 250V/5A	No	120min	180	T1: 116°C; T2: 103°C; T3: 97°C; T1 Stdby: 95°C (2)	25
CHD250PS12: T3, Pin 3 to 4	F	Fuse 250V/5A	No	120min	180	T1: 115°C; T2: 101°C; T3: 97°C; T1 Stdby: 97°C (3)	25
CHD250PS12: T1, Stdby: FL1 to FL2	F	Fuse 250V/5A	No	120min	180	T1: 103°C; T2: 99°C; T3: 93°C; T1 Stdby: 88°C (4)	25
CHD250PS48: T1, Pin 9 to 12	F	Fuse 250V/5A	No	120min	180	T1: 53°C, T2: 54°C, T3: 54°C, T1 Stdby: 58°C (5)	25
CHD250PS48: T2: Pin 3 to 4	F	Fuse 250V/5A	No	120min	180	T1: 116°C, T2: 103°C, T3: 97°C, T1 Stdby: 95°C (6)	25
CHD250PS48: T3: Pin 3 to 4	F	Fuse 250V/5A	No	120min	180	T1: 115°C, T2: 101°C, T3: 97°C, T1 Stdby: 97°C (7)	25
CHD250PS48: T1, Pin FL1 to FL2, 5V Standby	F	Fuse 250V/5A	No	120min	180	T1: 103°C, T2: 99°C, T3: 93°C, T1 Stdby: 88°C (8)	25

Supplementary Information:

1 Loads on other windings between no load and their NORMAL USE load. Short-circuit applied at end of windings or at the first point that could be short circuited under SINGLE FAULT CONDITION.

(1) NB,NT,NC- Main output shutdown when short was applied. 5V output remained stable. V1 output recovered after short was removed. Leakage: NC: 175Ua; SFC: 345uA

Test Tables

(2) NB,NT,NC- Unit remained stable during short-circuit. Leakage: NC: 130uA; SFC: 256uA

(3) NB,NT,NC,CD- TR15. V1 output was intermittent after 45 minutes. 5V stdby remained stable. V1 output did not recovered after short was removed. Output shorted. Leakage: NC: 155Ua, SFC: 303uA

(4) NB,NT,NC- 5V standby output shutdown when short was applied. Main output remained stable. 5V standby output recovered after short was removed. Leakage: NC: 139uA; SFC: 269uA

(5) NB,NT,NC- Main output shutdown when short was applied. 5V output remained stable. V1 output recovered after short was removed. Leakage: NC: 175uA, SFC: 345uA

(6) NB,NT,NC- Unit remained stable during short-circuit. Leakage: NC: 130uA, SFC: 256uA

(7) NB,NT,NC,CD- TR15. V1 output was intermittent after 45 minutes. 5V stdby remained stable. V1 output did not recovered after short was removed. Output shorted. Leakage: NC: 155uA, SFC: 303uA

(8) NB,NT,NC- 5V standby output shutdown when short was applied. Main output remained stable. 5V standby output recovered after short was removed. Leakage: NC: 139uA, SFC: 269uA

Where: NB:No indication of dielectric breakdown; NT - Tissue paper remained intact; NC - Cheesecloth remained intact

15.5.1.3	TABLE: transformer overload test – conducted only when protective device under short-circuit test operated				P
Primary voltage, most adverse value between 90 % to 110 % of RATED voltage (V)1:					264Vac
RATED input frequency (Hz):					60
Test current just below minimum current that would activate protective device & achieve THERMAL STABILITY under method a) (A):					Foldback
Test current based on Table 32 when protective device that operated under method a) is external to transformer, and it was shunted (A):					
Winding tested	Class of insulation (A, B, E, F, H)	Type of protective device used (fuse, circuit breaker)/Ratings	Maximum allowed temp from Table 31 (°C)	Maximum winding temp measured (°C)	Ambient (°C)
CHD250PS12: T1: Across C39	F	Fuse: 250V/5A	180	T1: 129°C, T2: 118°C, T3: 110°C, T1 Stdby: 110°C (1)	25
CHD250PS12: T2: Across C34	F	Fuse: 250V/5A	180	T1: 114°C, T2: 108°C, T3: 101°C, T1 Stdby: 101°C (2)	25
CHD250PS12: T3: Across C41	F	Fuse: 250V/5A	180	T1: 123°C, T2: 112°C,	25

Test Tables

				T3: 105°C, T1 Stdby: 104°C (3)	
CHD250PS12: T1 Standby: Across C6	F	Fuse: 250V/5A	180	T1: 97°C, T2: 104°C, T3:99°C, T1 Stdby: 102°C (4)	25
CHD250PS48: T1 Across C39	F	Fuse: 250V/5A	180	T1: 130°C, T2: 108°C, T3: 96°C, T1 Stdby: 100°C (5)	25
CHD250PS48: T2 Across C34	F	Fuse: 250V/5A	180	T1: 134°C, T2: 109°C, T3: 94°C, T1 Stdby: 99°C (6)	25
CHD250PS48: T3 Across C41	F	Fuse: 250V/5A	180	T1: 129°C, T2: 109°C, T3: 94°C, T1 Stdby: 99°C (7)	25
CHD250PS48: T1 Standby: Across C6	F	Fuse: 250V/5A	180	T1: 105°C, T2: 101°C, T3: 92°C, T1 Stdby: 111°C (8)	25

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Test Tables

Supplementary Information:

1 Loads on other windings between no load and their NORMAL USE load.
Time durations:
- Non IEC 60127-1 fuse: 30 min at the current based on characteristics supplied by fuse manufacturer, specifically, 30 min clearing-time current. When no 30 min clearing-time current data available, test current from Table 32 used until THERMAL STABILITY achieved.
- IEC 60127-1 fuse: 30 min at current from Table 32.
- Other types of protective devices: until THERMAL STABILITY achieved at a current just below minimum current operating the protective device in a).

This portion concluded at specified time or when a second protective device opened.

(1) NB,NT,NC- Unit was stable during overload. Leakage: NC: 135 uA, SFC: 259 uA

(2) NB,NT,NC- Unit was stable during overload. Leakage: NC: 133 uA, SFC: 258 uA

(3) NB,NT,NC- Unit was stable during overload. Leakage: NC: 128 uA, SFC: 252 uA

(4) NB,NT,NC- Unit was stable during overload. Leakage: NC: 138 uA, SFC: 271 uA

(5) NB,NT,NC- Unit was stable during overload. Leakage: NC: 140 uA, SFC: 278 uA

(6) NB,NT,NC- Unit was stable during overload. Leakage: NC: 136 uA, SFC: 270 uAA

(7) NB,NT,NC- Unit was stable during overload. Leakage: NC: 130 uA, SFC: 255 uA

(8) NB,NT,NC- Unit was stable during overload. Leakage: NC: 145 uA; SFC: 286 uA

Where: NB:No indication of dielectric breakdown; NT - Tissue paper remained intact; NC - Cheesecloth remained intact

15.5.2	TABLE: Transformer dielectric strength after humidity preconditioning of 5.7				N/A
Transformer Model/Type/ Part No	Test voltage applied between	Test voltage, (V)	Test frequency (Hz)	Breakdown Yes/No	Deterioration Yes/No

Supplementary Information:

Tests conducted under the conditions of 11.1, in ME EQUIPMENT or under simulated conditions on the bench. See Subclause 15.5.2 for test parameters & other details

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Test Tables

16.6.1	TABLE: LEAKAGE CURRENTS in ME SYSTEM _ TOUCH CURRENT MEASUREMENTS			N/A
Specific area where TOUCH CURRENT measured (i.e., from or between parts of ME SYSTEM within PATIENT ENVIRONMENT)	Allowable TOUCH CURRENT in NORMAL CONDITION (µA)	Measured TOUCH CURRENT in NORMAL CONDITION (µA)	Allowable TOUCH CURRENT in event of interruption of PROTECTIVE EARTH CONDUCTOR, (µA)	Measured TOUCH CURRENT in event of interruption of PROTECTIVE EARTH CONDUCTOR, (µA)
	100		500	
	100		500	
	100		500	
	100		500	
	100		500	

Supplementary information:

None

SP	**TABLE: Additional or special tests conducted**	**N/A**
Clause and Name of Test	**Test type and condition**	**Observed results**

Supplementary information:

This table is used to identify test results for tests other than referenced in the above test tables. Refer to Appendix D for all tests performed within this report.

8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
Bottom Cover – for models with suffix "-C"	Interchangeable	Interchangeable	Metal, L-shaped, overall approx. 14 by 8.8 by 4.3 cm, min. 0.9 mm thick. See Enclosure 4-13 for details.		
Top Cover – for models with suffix "-C"	Interchangeable	Interchangeable	Metal, L-shaped, overall approx. 14 by 8.8by 4.3 cm, min. 0.6 mm thick. Provided with numerous ventilation openings. Secured to Bottom Cover by screws. See Enclosure 4-13 for details.		
Insulator Sheet – for models with suffix "-C"	Formex Inc	Formex GK-10BK	Cover and PWB. Rated min. V-1, 115°C, approx. 136 by 84 mm., min 0.25 mm thick.	UL 94 (QMFZ2 (E121855))	UL
Printed Wiring Board	Interchangeable	Interchangeable	Overall approx. 12.6 by 7.5 cm, min. 2 mm thick. Rated min. V-1, min. 130°C	UL 796 (ZPMV2)	UL
Primary Connector (CON1)	Molex	41791 Series (P/N 26-60-4030)	2 pos. Rated min. 250 V, 7.0 A, 105°C	UL 1977 (ECBT2 (E29179)), CSAC22.2 NO 182.3-M1987	UL, CSA
Terminal Block (CON1) - for Models provided with suffix "-S"	Dinkle Enterprise	EK381V Series (EK381V-03P)	Rated min. 7A, 250V, min. 105°C. May be mounted on top or bottom of PWB.	UL 1054, CSA C22.2 No. 158 (XCFR2,8 (E102914))	UL, cUL, TUV
Primary Connector (CON1) - Alternate	Interchangeable	Interchangeable	Not provided, when provided with Input Leads, (AVLV2), rated min. 18 AWG, min. 60°C, min. VW-1, soldered and mechanically secured through the PWB.	UL 758 (AVLV2)	UL
Input Leads – Optional – For Models with –L suffix	Interchangeable	Interchangeable	When not provided with primary connector or terminal block (CON1), provided with Input Leads, (AVLV2), rated min. 18 AWG, min. 105°C, min. VW-1, soldered and mechanically secured through the PWB.	UL 758 (AVLV2)	UL
Primary Connector (CON1) - Alternate	Interchangeable	Interchangeable	2 pos. Rated min. 250 V, 7.0 A, 105°C	UL 1977 (ECBT2), or UL 498 (RTRT2) or UL 746C (QMFZ2)	UL
Fuse (FS1, FS2)	Bel Fuse Inc.	5HFP Series	Rated 5A, min. 250V,	UL 248, CSA-C22.2 No.	UL, cUL, VDE

8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
			min. 125°C. Mounted vertically with leads soldered through Main PWB. Provided with fuse carrier. (IR rating:1500 A at 250 V ac)	248 (JDYX2, 8 (E20624)), IEC 60127-2	
Fuse (FS1, FS2) - Alternate	Littelfuse (Wickmann Werke)	216 Series (0216005XEP)	Rated 5A, min. 250V, min. 125°C, Time Lag (Non-operator replaceable). (IR rating: 1500A at 250Vac)	UL 248-14, CSAC22.2 No. 248.14, ((JDYX2,8(E10480)), IEC 60127-2	UL, cUL, SEMKO
Fuse holder (FS1,FS2)	EI Dupont De Nemours & Co Inc	FR530	Overall approx. 29 by 17.75 by min. 0.8 mm thick. Rated V-0, min. 155°C..	UL 94, (QMFZ2, 8) (E41938))	UL, cUL
Fuseholder (FS1,FS2) - Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Overall approx. 29 by 17.75 by min. 0.8 mm thick. Rated V-0, min. 155°C.	UL 94 (QMFZ2 (E95746))	UL
X-Capacitor (C1)	Xiamen Faratronic Co Ltd	MKP62 Series (Type C42)	Rated max. 0.47 uF, min. 250 V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E186600)), IEC60384-14	UL, cUL, VDE
Capacitor (C5)	Xiamen Faratronic Co Ltd	MKP62 Series (Type C42)	Rated max. 1.5 uF, min. 250 V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E186600)), IEC60384-14	UL, cUL, VDE
X-Capacitor (C6)	Xiamen Faratronic Co Ltd	MKP62 Series (Type C42)	Rated max. 2.2 uF, min. 250 V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E186600)), IEC60384-14	UL, cUL, VDE
X-Capacitor (C6) - Alternate	Epcos/Siemens	B3292 Series	Rated max. 2.2 uF, min. 250 V, marked "X2"	UL 60384-14, CSA E60384-14:09 (FOWX2, 8 (E97863)), IEC60384-14	UL, cUL, VDE
Film Capacitors (C29,C30) (PRI)	Interchangeable	Interchangeable	Rated max. 0.068 uF, min. 400 Vdc.		
Thermistor (TH1)	Epcos OHG	B57236 Series	NTC. Rated 20 Ohm, 25°C min, 2.8A min. steady state current (Not relied upon for safety).	UL 1434, IEC 60730-1:1999+A1:2003, Annex J (XGPU2) (E69802))	UL, cUL
Thermistor (TH1) - Alternate	Interchangeable	Interchangeable	NTC. Rated 20 Ohm, 25°C min, 2.8A min. steady state current (Not relied upon for safety).	UL 1434 (XGPU2), IEC60730, EN60730-1	UL
X-Capacitor (C67,C68)	Vishay Capacitors Belgium N V	338 2 Series	Rated max. 0.1 uF, min. 250V, marked	UL 60384-14, CSA E60384-1:03, CSA	UL, cUL, FI

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8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
			"X2".	E60384-14:09 ((FOWX2, 8), (E354331)), IEC 60384-14	
X-Capacitor (C67,C68) - Alternate	Kemet Electronics Corp (Evox-Rifa)	PHE840 Series	Rated max. 0.1uF, min. 250V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 ((FOWX2, 8) E73869)), IEC 60384-14	UL, cUL, SEMKO
X-Capacitor (C67,C68) - Alternate	Kemet Electronics Italia SRL	R.46 Series	Rated max. 0.1 uF, min. 250V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2,8(E97797)), IEC60384-14	UL, cUL, VDE
X-Capacitor (C67,C68) - Alternate	Winday Electronic Ind Co Ltd	MPX Series	Rated max. 0.1 uF, min. 250V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2,8 (E302125)), IEC 60834-14	UL, cUL, VDE
Diodes (D1,D2,D23,D24)	Vishay	1N5627GP	Rated min. 800V, min. 3A. Soldered and secured to PWB using Diode Support. See diode support for details		
Diodes (D1,D2,D23,D24)	Interchangeable	Interchangeable	Rated min. 800V, min. 3A. Soldered and secured to PWB using Diode Support. See diode support for details		
Diode Support (D1,D2,D23,D24)	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Overall approx. 28 by 11 by min. 0.8 mm thick. Rated V-0, min. 155°C.	UL 94 (QMFZ2 (E95746))	UL
Diode Support (D1,D2,D23,D24) - Alternate	EI Dupont De Nemours & Co Inc	FR530	Overall approx. 28 by 11 by min. 0.8 mm thick. Rated V-0, min. 155°C.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Y-Capacitor (C4,C45,C76)	Kemet Electronics OY (Evox-Rifa)	ERP610 Series	Rated max. 1000 pF, min. 250 V, marked "Y1".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2,8 (E356389)), IEC60384-14	UL, cUL, VDE
Y-Capacitor (C4,C45,C76) – Alternate	Murata Mfg Co Ltd	KX Series	Rated max. 1000 pF, min. 250 V, marked "Y1".	UL 60384-14, (FOWX2 (E37921)), CAN/CSA-E60384-14:09, IEC 60834-14	UL, CSA, VDE
Y-Capacitor (C4,C45,C76) – Alternate	Vishay Electronic GmbH	VY1 or VKP Series	Rated max. 1000 pF, min. 250 V, marked "Y1".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E183844)), IEC60384-14	UL, cUL, VDE

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Clause	Requirement + Test	Result - Remark	Verdict

8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
Electrolytic Capacitors (C14,C25,C112,C113) (PRI)	Interchangeable	Interchangeable	Rated max 100 uF, min. 63 V, min. 105°C. Provided with integral pressure relief.		
MOSFET (TR13) (PRI)	ST Microelectronics	STP10NK60Z	Rated min. 600 V, min. 10A, min. 150°C.		
MOSFET (TR13) (PRI) - Alternate	Interchangeable	Interchangeable	Rated min. 600 V, min. 10A, min. 150°C.		
Electrolytic Capacitor (C64) (PRI)	Interchangeable	Interchangeable	Rated max 150 uF, min. 450 V, min. 105°C. Provided with integral pressure relief		
Relay (RL1)	Xiamen Hongfa Electroacoustic Co	HF32F Series (HF32F-012-HSLQ)	Rated min. 12V, min. 10A (Non-isolating).	UL 60947-4-1A, CSA C22.2, No. 60947-4-1 (NLDX2, NLDX8 (E134517)), IEC61810	UL, cUL, TUV
MOSFET (TR2-TR5,TR27,TR28)	Fairchild Semiconductor	IRFB18N50KPBF	Rated min. 600 V, min. 13A, min. 150°C. TR2-TR5 secured to MOSFET Heat Sink by screw, nut and washer.		
MOSFET (TR2-TR5,TR27,TR28) - Alternate	Interchangeable	Interchangeable	Rated min. 600 V, min. 13A, min. 150°C. TR2-TR5 secured to MOSFET Heat Sink by screw, nut and washer.		
MOSFET Heatsink (TR2-TR5) (PRI)	Interchangeable	Interchangeable	Two provided. Aluminum, L-shaped, Overall approx. 33 by 31 by 6.8 by min. 1 mm thick. See Enclosure Diagrams (11) for details.		
Rectifier Diodes (D5,D6) (PRI)	Philips Semiconductors	BYV29 Series	Rated min. 9A, min. 500V. Secured to Rectifier Diode Heatsink using screw, washer, and nut.		
Rectifier Diodes (D5,D6) (PRI) - Alternate	Interchangeable	Interchangeable	Rated min. 9A, min. 500V. Secured to Rectifier Diode Heatsink using screw, washer, and nut.		
Rectifier Diode Heatsink (D5,D6) (PRI)	Interchangeable	Interchangeable	Aluminum, L-shaped, Overall approx. 33 by 31 by min. 1 mm thick. See enclosure Diagrams (12) for details.		
Rectifier Diode Heatsink (D5,D6) (PRI) – for Models	Interchangeable	Interchangeable	Aluminum, L-shaped, Overall approx. 33 by 31 by 18.6 by min. 1		

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8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
with –A suffix			mm thick. Provided with screw opening to secure 5V Stand-by PWB.		
Inductor (L1)	XP Power LLC	Interchangeable (100xxxxx where x can be any number between 0 and 9). Construction of Inductor 10016094 represents entire series.	Toroidal. Copper Magnet Wire, (OBMW2), rated min. 130°C, wound on ferrite core. Overall approx. 25 mm dia. by 11 mm wide. See Enclosure Diagrams (01) for details.		
Inductor (L1) Base	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Provided between Inductor L1 and PWB. Overall approx. 25 by 11.6 by min. 1 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Inductor (L1) Base – Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Provided between Inductor L1 and PWB. Overall approx. 25 by 11.6 by min. 1 mm thick	UL 94 (QMFZ2 (E95746))	UL
Inductor (L2)	XP Power LLC	Interchangeable (100xxxxx where x can be any number between 0 and 9). Construction of Inductor 10014243 represents entire series.	Toroidal. Copper Magnet Wire, (OBMW2), rated min. 130°C, wound on ferrite core. Overall approx. 29 mm dia. by 13 mm wide. See Enclosure Diagrams (02) for details.		
Inductor (L2) Base	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Provided between Inductor L1 and PWB. Overall approx. 25 by 15.4 by min. 1 mm thick	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Inductor (L2) Base – Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Provided between Inductor L1 and PWB. Overall approx. 25 by 15.4 by min. 1 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Inductors (PFC) (L3,L4)	XP Power LLC	Interchangeable (100xxxxxwhere x can be any number between 0 and 9. Construction of transformer 10013071 represents the entire series)	Open-type. Concentrically wound magnet wire, (OBWM2), rated min. 130°C. Overall approx. 41 by 26 by 20 mm. Core/Bobbin: See Transformer – Bobbin Material for details. See Enclosure Diagrams (03) for		

8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
			details.		
Inductors (PFC) (L3,L4) - Base	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Provided between Inductor L3,L4 assembly and PWB. L-shaped, overall approx. 43 by 29.5 by min. 1 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Inductors (PFC) (L3,L4) – Base - Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Provided between Inductor L3,L4 assembly and PWB. L-shaped, overall approx. 43 by 29.5 by min. 1 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL, cUL
Inductor (L5)	XP Power LLC	Interchangeable (100xxxxx where x can be any number between 0 and 9. Construction of Inductor 10015645 represents the entire series)	Open-type. Concentrically wound magnet wire, (OBWM2), rated min. 130°C. Overall approx. 20.3 by 18 by 16.5 mm, min. 1 mm thick. Provided with Bobbin Base. See Inductor – Bobbin Base. See Enclosure Diagram (04) for details.	-	Evaluated as part of this investigation
Inductor (L5) – Bobbin	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C, approx. 14.65 by 8.25 by min. 0.5 mm thick.	QMFZ2 (E233198)	UL
Inductor (L5) – Bobbin - Alternate	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Inductor (L5) – Bobbin Base	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C, min. 1 mm thick. See Enclosure Diagram (04) for details.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Inductor (L5) – Bobbin Base - Alternate	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C, min. 1 mm thick. See Enclosure Diagram (04) for details.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Transformer (T1)	XP Power LLC	Interchangeable (100xxxxx where x can be any number between 0 and 9. Construction of Transformer 10013075 represents entire series.)	Open-type. Provided with a Class F insulation system, see Transformer–Insulation System for details. Overall approx. 33 by 27 by 26 mm. Bobbin: Overall approx.16.8 by 11.2 by 11. 2 mm, min. 1.0 mm thick, see Transformer – Bobbin Material for details. See Enclosures Diagrams (06) to (10)	-	Evaluated as part of this investigation

8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
			and (14) for details.		
Transformer (T1) – Insulation System	XP Power LLC	Designated F	Rated 155°C	UL 1446 (OBJY3 (E139109S))	
Transformer – Bobbin	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Transformer (T1) - Bobbin - Alternate	Sumitomo Bakelite Co Ltd	Sumikon PM9820 & PM9630	Rated V-0, min. 155°C, min. 0.90 mm thick.	Ul 94, UL 746C, QMFZ2 (E41429)	UL
Transformer (T1) - Bobbin - Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Transformer (T1) - Core Washer	Dupont	Nomex 410	Rated V-0, approx. 22.5 mm OD, 12.5 mm ID, min. 0.08 mm thick.	UL 746C, UL 94 (QMFZ2 (E34739))	UL
Transformer (T1) - Insulator Sheet	Dupont	Nomex 410	Rated V-0, approx. 45 by 16 mm, min. 0.08 mm thick.	UL 746C, UL 94 (QMFZ2 (E34739))	UL
Transformer (T1) - Insulating Tape	3M Co	1350	Polyester film tape, min. 2.5 mils thick (Passed 2500 V ac dielectric)	UL 510 (OANZ2 (E17385))	UL
Transformer (T1) – Magnet Wire (Winding 2, 3, 6, and 7)	Interchangeable	Interchangeable	Rated min. 155°C, 0.20 mm, MW80.	UL 1446 (OBMW2)	UL
Transformer (T1) – Triple Insulated Wire (Winding 1, 4, 5 and 8)	Great Leoflon Industrial Co., Ltd	TRW (F)	Reinforced Insulation. Rated 155°C, min. 600 Vpk (Passed 6k Vpk dielectric as part of component evaluation, also passed 10kV dielectric for twist pair test as part of Test Report E146893-A32 report); and suitable for reinforced insulation)	UL 2353 (OBJT2 (E211989))	UL
Transformer (T1) – Triple Insulated Wire (Winding 1, 4, 5 and 8) - Alternate	Kuo Kuang Electronic Wire Co., Ltd	REFU-F	Reinforced Insulation, rated 155°C, min. 600 Vpk (15kV Dielectric test during component evaluation).	UL 2353 (OBJT2 (E222087))	UL
Transformer (T1) – Support	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Overall approx. 32.4 by 30 by 10.5 by min. .090 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Transformer (T1) – Support	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Overall approx. 32.4 by 30 by 10.5 by min. .090 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Transformer (T2,	XP Power	Interchangeable	Toroidal. 2 provided.	-	-

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Clause	Requirement + Test	Result - Remark	Verdict

8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
T3)		(100xxxxx, where x can be any number between 0 and 9. Construction of Transformer 10013074 represents entire series)	Provided with a Class F insulation system, see Transformer–Insulation System for details. Secured to board using Transformer Base. See enclosure Diagrams (11) for details.		
Transformer (T2, T3) – Base	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Overall approx. 13 by 12.5 by 18 by min. .090 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Transformer (T2, T3) – Base - Alternate	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Overall approx. 13 by 12.5 by 18 by min. .090 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Transformer (T2, T3) – Insulation System	XP Power LLC	Designated F	Rated 155°C	UL 1446 OBJY3 (E139109S)	
Transformer (T2, T3) – Triple Insulated Wire (Winding 2)	Rubadue Wire Co. Inc.	T24A01T090-2	Reinforced Insulation. Rated 155°C,min. 1000 Vpk, 23 AWG (14kV Dielectric test during component evaluation).	UL 2353, (OBJT2 (E206198))	UL
Transformer (T2, T3) – Magnet Wire (Winding 1)	Interchangeable	Interchangeable	Rated 130°C, 0.30 mm, MW80.	UL 1446 (OBMW2)	UL
Optical Isolator (OPT1-OPT4)	Lite-On	LTV-816 Series	Double protection, isolation voltage min. 5000 V. DTI min 0.4mm	UL 1577, CSA Component Acceptance Service No. 5A (FPQU2, 8 (E113898)), IEC 607047-5-2,VDE 0884	UL, cUL, VDE
Optical Isolator (OPT1- OPT4) - Alternate	Renesas Electronics Corp (NEC)	PS2561L-1 Series	Double protection, isolation voltage min. 5000 V. DTI min 0.4mm	UL 1577 (FPQU2 (E72422)), CSA Std. 1, 60950-1,CA5A,E60065, IEC 60950-1, 60065 7th Ed. , IEC 607047-5-2, VDE 0884	UL, CSA, VDE
Optical Isolator (OPT1- OPT4) - Alternate	Vishay Infared Components Inc	SFH6156 Series (Systems H and J)	Double protection, isolation voltage 4420 V. DTI min 0.4mm	UL 1577, CSA Component Acceptance Service No. 5A (FPQU2 (E52744)), IEC 60747-5-2, VDE0884E	UL, cUL, VDE
Y-Capacitor (C110)	Murata Mfg Co Ltd	KX Series	Rated max. 680 pF, min. 250 V, marked "Y1".	UL 60384-14 (FOWX2(E37921)), CSA Std. CAN/CSA-E60384-14:09, IEC60384-14	UL, CSA, VDE
Y-Capacitor (C110) – Alternate	TDK-EPC Corp	CD Series	Rated max. 680 pF, min. 250 V, marked "Y1".	UL 60384-14, CSA E60384-1:03 (FOWX2,8) (E37861)), IEC60384-14,	UL, cUL, VDE
Y-Capacitor (C110)	Vishay Electronic GmbH	VY1 or VKP Series	Rated max. 680 pF,	UL 60384-14, CSA	UL, cUL, VDE

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
– Alternate			min. 250 V, marked "Y1".	E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E183844)), IEC60384-14	
Electrolytic Capacitors (SEC)	Interchangeable	Interchangeable	Rated min. 16 V, 105°C. Provided with integral pressure relief.	-	-
Output Inductor (L9)	XP Power LLC	Interchangeable (100xxxxx, where x can be any number between 0 and 9. Construction of inductor 10013080 represents the entire series)	Magnet Wire, (OBWM2) min. 105°C, wound on ferrite core. Overall approx. 8 mm dia. by 15.2 mm high. See Enclosure Diagrams (05) for details.	-	Evaluated as part of this investigation
Ceramic Capacitor (C23)	Interchangeable	Interchangeable	Rated max. 0.1 uF, min. 50V.	-	-
MOSFET (TR15, TR16) (SEC)	Interchangeable	Interchangeable	Rated min. 40V, max. 120 A. Secured to output connector (CON2) by screw and nut.	-	-
Output Connector (CON2) (SEC)	Interchangeable	Interchangeable	U-shaped, tin plated brass, overall approx. 31.8 by 13 by 11.4 by min. 1 mm thick. Secured to PWB by solder.	-	-
Output Connector (CON3) (SEC)	Interchangeable	Interchangeable	U-shaped, tin plated brass, overall approx. 15.3 by 13 by 4.5 by min. 1 mm thick. Secured to PWB by solder.	-	-
Output Connector (CON3) (SEC) – for Models with suffix -A	Interchangeable	Interchangeable	U-shaped, tin plated brass, overall approx. 26.85 by 12.8 by 5 by min. 1 mm thick. Secured to PWB by solder.	-	-
Output Connector (CON4) (SEC)	Japan Solderless Terminal Mfg Co Ltd (JST)	PHD Series (B10B-PHDSS(LF)(SN))	Rated min. 7A, min. 250V, min. 105°C.	UL 1977, (ECBT2 (E60389)), C22.2 No. 182.3	UL, CSA
Electrolytic Capacitor (C36, C64, C113)	Interchangeable	Interchangeable	May be provided with optional heat-shrink tubing. See Insulating Tubing/Sleeving for details.	-	-
5V Stand-by - Printed Wiring Board – for Models with suffix -A	Interchangeable	Interchangeable	Overall approx. 6.9 by 3.2 cm, min. 1 mm thick. Rated min. V-1, min. 130°C. Input side secured to Rectifier Diode Heatsink	U:L 796 (ZPMV2)	UL

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
			(D5,D6) (PRI) by screw and nut. Output side secured to Output Connector (CON3) (SEC) by solder.		
X-Capacitor (C9) - 5V Stand-by	Xiamen Faratronic Co Ltd	MKP62 Series (Type C42)	Rated max. 0.1 uF, min. 250 V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E186600)), IEC60384-14	UL, cUL, VDE
Transformer (T1) – 5V Stand-by	XP Power LLC	10015566	Open-type. Provided with a Class F insulation system, see Transformer – Insulation System for details. Overall approx. 17.8 by 16.4 by 11 mm.. See enclosure diagram (15) for details.	-	-
Transformer (T1) – Insulation System - 5V Stand-by	XP Power LLC	Class F	Rated 155°C	UL 1446 (OBJY3 (E139109SP)	
Transformer – Bobbin - 5V Stand-by	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Transformer (T1) - Bobbin – 5V Stand-by - Alternate	Sumitomo Bakelite Co Ltd	Sumikon PM9820 & PM9630	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C (QMFZ2 (E41429))	UL
Transformer (T1) - Bobbin - 5V Stand-by -Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Transformer (T1) – Magnet Wire (Winding 1, 2) - 5V Stand-by	Interchangeable	Interchangeable	Rated min. 155°C, 0.20 mm, MW80.	UL 1446 (OBMW2)	UL
Transformer (T1) – Triple Insulated Wire (Winding 3) - 5V Stand-by	Great Leoflon Industrial Co., Ltd	TRW (F)	Reinforced Insulation. Rated 155°C, min. 600 Vpk(Passed 6k Vpk dielectric as part of component evaluation, also passed 10kV dielectric for twist pair test as part of Test Report E146893-A32 report); and suitable for reinforced insulation)	UL 2353 ((OBJT2 (E211989))	UL
Transformer (T1) – Triple Insulated Wire (Winding 3) - 5V Stand-by - Alternate	Kuo Kuang Electronic Wire Co., Ltd	REFU-F	Reinforced Insulation, rated 155°C, min. 600 Vpk (15kV Dielectric test during component evaluation).	UL 2353 (OBJT2 (E222087))	UL

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.10	**TABLE:** List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
Transformer (T1) – Outerwrap - 5V Stand-by	3M Co	1350	Polyester film tape, 1mm thick. (Not relied upon for reinforced insulation)	UL 510 OANZ2 (E17385)	UL
Transformer (T1) – Outerwrap - 5V Stand-by - Alternate	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	CT (CT286)	Rated 130°C. Tape Polyester Film, 1mm thick. (Not relied upon for reinforced insulation)	UL 510 (OANZ2 (E165111))	UL
Inductor (L1) - 5V Stand-by	XP Power	10015586	Copper Magnet Wire, (OBMW2), rated min. 130°C, wound on ferrite core. Overall approx. 2.6 mm dia. by 15 mm long. See Enclosure Diagrams (16) for details.	-	-
Electrolytic Capacitors - 5V Stand-by	Interchangeable	Interchangeable	Rated min. 16 V, 105°C. Provided with integral pressure relief.	-	-
Insulating Tubing/Sleeving	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; 130 ºC, 240 V	UL 224 (UZFT2, YDPU2, YDRY2, YDTU2)	UL
RTV	Interchangeable	Interchangeable	Rated min. V-2, min. 130°C	UL 746C (QMFZ2)	UL

Supplementary information:

The (CB) Test Laboratory has verified the component information.

1) An asterisk indicates a mark which assures the agreed level of surveillance. See Licenses and Certificates of Conformity for verification.

2) Identify the UL Product Category CCN(s)/File Number in brackets “()” if component is a UL Certified component and this report includes a UL Certification. This is useful for the UL Follow-Up Service Inspection associated with the UL Mark.

National Differences

The following National Differences are included in this Report. If not 'Selected', the device was not evaluated to these Differences.

Selected? (y/n)	Country	Standard	Abbreviation
Yes	Austria	EN 60601-1:2006/A1:2013	AU
Yes	Korea, Republic of	KS C IEC 60601-1	KO
Yes	USA	ANSI/AAMI ES60601-1:2005/(R)2012	US
Yes	Canada	CSA CAN/CSA-C22.2 NO. 60601-1:14	CAN
Yes	United Kingdom	BS EN 60601:2006 A1	UK
Yes	Sweden	SS-EN 60601-1:2006+A11:2011+A1:2013+AC1:2014	SW

Austria (EN 60601-1:2006/A1:2013)			
	No specific National Differences for this Country		N/A
Korea, Republic of (KS C IEC 60601-1)			
	No specific National Differences for this Country		N/A
USA (ANSI/AAMI ES60601-1:2005/(R)2012)			
	Replacement: where there was no relevant IEC/ISO standard, the relevant US ANSI standard applied	see appended table 8.10	Pass
	- when no relevant US ANSI standard existed, the requirements of this standard applied	see appended table 8.10	Pass
	Replacement: Rated voltage not exceeding 250V dc or single phase ac. or 600V poly-phase ac for me equipment and me systems up to 4kVA		Pass
	Rated voltage not exceeding 600 V for all other me equipment and me systems		N/A
	Addition: To comply with NFPA 70, X-Ray systems are classified as long time operation (> 5 min) or momentary operation (< 5 sec)	No such parts	N/A
	Addition: To comply with NFPA 70, X-Ray systems are marked as long time operation or momentary operation		N/A
7.2.22	New Sub-clause: Colors of medical gas cylinders		N/A
	To comply with NFPA 99: Cylinders containing medical gases and their connection points are colored in accordance with the requirements of NFPA 99		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Addition: All fixed me equipment & permanently installed me equipment are class I me equipment		N/A
	Addition: To comply with NFPA 99, the enclosure of X-ray ME EQUIPMENT operating over 600 Vac, 850Vdc MAINS VOLTAGE, or containing voltages up to 50 V peak and enclosed in protectively earthed enclosure as well as connections to X-ray tubes and other high voltage components that include high voltage shielded cables are PROTECTIVELY EARTHED.		N/A
	To comply with NFPA 99, non-current carrying conductive parts of X-Ray ME EQUIPMENT likely to become energized are PROTECTIVELY EARTHED		N/A
	Earth leakage current values are not higher than the stated values		Pass
	5 mA in normal condition		Pass
	10 mA in single fault condition		Pass
	Addition prior to the first paragraph: a) To comply with the NEC, add the following requirements to this clause:	Component only, to be determined in the end product	N/A
	Addition at the end of the clause: b) For ME EQUIPMENT provided with NEMA configuration non-locking plug types 120 V/15 A, 125 V/20 A, 250 V/15 A, 250 V/20 A “Hospital Grade” mains plug is provided and the POWER SUPPLY CORD is marked	Component only, to be determined in the end product	N/A
	Addition: permanently connected me equipment provided with field wiring provision in accordance with NEC		N/A
	Installation of connecting cords between equipment parts comply with NEC		N/A
	Cable used as external interconnection between units		N/A
	1) Exposed to abuse: Type SJT, SJTO, SJO, ST, SO, STO, or equivalent, or similar multiple-conductor appliance-wiring material,		N/A
	2) Not exposed to abuse: The cable was as in item 1) above, or		N/A
	i) Type SPT-2, SP-2, or SPE-2, or equivalent		N/A
	ii) Type SVr, SVRO, SVE, or equivalent or similar multiple-conductor appliance wiring material,		N/A
	iii) An assembly of insulated wires each with a nominal insulation thickness of 0.8 mm (1/32 inch) or more,		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- enclosed in acceptable insulating tubing having a nominal wall thickness of 0.8 mm (1/32 inch) or more		N/A
	Receptacles provided as part of me equipment and me systems for use in the patient care areas of pediatric wards, rooms, or areas are Listed tamper resistant	No such parts	N/A
	- or employ a Listed tamper resistant cover in accordance with NEC		N/A
	- and it is acceptable for use at a voltage not less than the rated voltage of the appliance		N/A
	- and has an ampacity as in NEC, not less than the current rating of the appliance		N/A
	Addition: To comply with NFPA 99, for X-Ray ME EQUIPMENT with an attachment plug, the current rating on a hospital grade plug is 2X the maximum input current of the equipment		N/A
Canada (CSA CAN/CSA-C22.2 NO. 60601-1:14)			
1	Scope, object and related documents		Pass
1.1	Scope		Pass
	This standard applies to the BASIC SAFETY and ESSENTIAL PERFORMANCE of MEDICAL ELECTRICAL EQUIPMENT and MEDICAL ELECTRICAL SYSTEMS designed to be installed in accordance with CSA C22.1 and CAN/CSA-Z32.		Pass
1.3	Collateral standards		N/A
	Applicable Canadian collateral standards become normative at the date of their publication and apply together with this standard.	Noted	N/A
1.4	Particular standards		N/A
	Applicable Canadian 60601/80601 particular standards may modify, replace, or delete requirements contained in this standard. Requirements in the Canadian particular takes priority of this standard.	Noted	N/A
3	Terminology and definitions		N/A
3.41	HIGH VOLTAGE - voltage above 750 V, as defined in the Canadian Electrical Code Part I		N/A
	General Requirements		Pass
4.1A	General requirements applicable to ME EQUIPMENT and ME SYSTEMS are provided in CAN/CSA C22.2 No. 0		Pass
	a) the applicable safety requirements of a relevant CSA,Group, IEC, or ISO standard; or	see appended table 8.10	Pass
	b) where there is no relevant CSA Group, IEC or ISO standard, requirements of this standard applied		Pass

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	ME EQUIPMENT intended for connection to SUPPLY MAINS in accordance with the Canadian Electrical Code Part I, CSA C22.1 and the following RATED voltage not exceeded:		Pass
	ME EQUIPMENT identification, markings and documents		Pass
7	ME EQUIPMENT identification, markings and documents		Pass
7.7.1-7.7.5	Replaced by 7.7 below		N/A
7.7	Colours of insulation on conducts in accordance with Canadian Electric Code, Part 1		N/A
	A PROTECTIVE EARTH CONDUCTOR or a PROTECTIVE EARTH CONNECTION of any insulation identified by either green or green and yellow colour at least at the termination of the conductors		N/A
	Identification by green or green and yellow insulation only used for: - PROTECTIVE EARTH CONDUCTORS; - Conductors as specified in 7.7.2 - POTENTIAL EQUALIZATION CONDUCTORS; - FUNCTIONAL EARTH CONDUCTORS		N/A
	Colours of neutral conductors and POWER SUPPLY CORD conductors in accordance with Canadian Electric Code, Part 1, CSA C22.2 No. 21 and CSA C22.2 No. 49		N/A
	Allowable values in accordance with the Canadian Electrical Code, Part I		Pass
	POWER SUPPLY CORDS comply with the following:		N/A
	a) The MAINS PLUG of non-PERMANENTLY INSTALLED EQUIPMENT shall be		N/A
	i) molded-on type, hospital grade mains plug complying with CSA C22.2 No. 21:		N/A
	ii) hospital grade disassembly attachment plug type complying with CSA C22.2 No. 42; or		N/A
	iii) Class II equipment having fuses on the line side/sides and neutral may use a non-polarized attachment plug or a polarized attachment plug. CSA configuration type 1-15P shall be required and shall meet all applicable requirements in CSA C22.2 No. 21 and CSA C22.2 No. 42. Where a polarized attachment plug is used, the POWER SUPPLY CORD shall be connected to the wiring of the EQUIPMENT on the ungrounded side of the line when any of the following devices are used in the primary circuit:		N/A
	1- the centre contact of an Edison base lampholder;		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	2- a single pole switch;		N/A
	3- an automatic control with a marked off position;		N/A
	4- a solitary fuse/fuse holder; or		N/A
	5- any other single pole overcurrent protective device		N/A
	b) Detachable POWER SUPPLY CORD for non-PERMANENTLY INSTALLED EQUIPMENT (cord-connected equipment) shall be of a type that		N/A
	i) can be shown to be unlikely to become detached accidentally, unless it can be shown that detachment will not constitute a safety HAZARD to a PATIENT or OPERATOR;		N/A
	ii) can be shown that the impedance of the earth (ground) circuit contacts will not constitute a safety HAZARD to a PATIENT or OPERATOR; and		N/A
	iii) has a terminal configuration or other constructional feature that will minimize the possibility of its replacement by a detachable POWER SUPPLY CORD which could create a HAZARDOUS SITUATION		N/A
	c) A detachable POWER SUPPLY CORD shall		N/A
	i) comply with the applicable requirements of CSA C22.2 No. 21; and		N/A
	ii) not be smaller than No. 18 AWG, and the mechanical serviceability shall be not less than		N/A
	1) Type SJ or equivalent for mobile or exposed to abuse ME EQUIPMENT; and		N/A
	2) Type SV or equivalent for ME EQUIPMENT not exposed to abuse (or Type HPN if required because of temperature)		N/A
	d) Power supply cords shall meet the requirements of the Canadian Electrical Code, Part I, as applicable		N/A
	Mains fuses and OVER-CURRENT RELEASES shall be in accordance with the Canadian Electrical Code, Part I,		Pass
	Pressure vessels shall comply with the requirements of CSA B51, as applicable		N/A
	A pressure-relief device shall also comply as applicable to the requirements of ASME PTC 25 or equivalent Canadian requirements:		N/A
	bA) The point of connection of gas cylinders to ME EQUIPMENT shall be gas specific and clearly identified so that errors are avoided when a replacement is made. Medical gas inlet connectors on EQUIPMENT shall be		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
	i) gas specific, yoke type, or nut and nipple type valve connections complying with CGA V-1 for pressures over 1 380 kPa (200 psi); or :		N/A
	ii) DISS type complying with CGA V-5 for pressures 1 380 kPa (200 psi) or less and configured to permit the supply of medical gases from low-pressure connecting assemblies complying with CAN/CSA-Z5359		N/A
	Flexible cords and equipment wire of ME EQUIPMENT shall be in accordance with the Canadian Electrical Code, Part I,		N/A
	General requirements for the ME SYSTEMS		N/A
	An ME SYSTEM shall provide		N/A
	- within the PATIENT ENVIRONMENT, the level of safety equivalent to ME EQUIPMENT complying with the CSA Group standard; and		N/A
	- outside the PATIENT ENVIRONMENT, the level of safety equivalent to equipment complying with their respective CSA Group, IEC, or ISO safety standards		N/A
	Non-ME EQUIPMENT, when used in an ME SYSTEM, shall comply with CSA Group, IEC, or ISO safety standards that are relevant to that equipment.		N/A
	d) The MULTIPLE SOCKET-OUTLET combined with a separating transformer, the following additional requirements apply:		N/A
	- The separating transformer shall comply with the requirements of this standard; or		N/A
	- The separating transformer complied with CAN/CSA-E61558-2-1, except that the requirements of maximum RATED output power of 1 kVA and degree of protection IPX4 do not apply		N/A
	-Separating transformer was CLASS 1 construction		N/A
	-Degree of protection against ingress of water is specified:		N/A
	Separating transformer assembly market according to 7.2 and 7.3		N/A
	MULTIPLE SOCKET-OUTLET permanently connected to the separating transformer or		N/A
	socket- outlet of separating transformer assembly of the type the cannot accept MAINS PLUGS of any of the kinds in Canadian Electrical Code, Part 1		N/A
United Kingdom (BS EN 60601:2006 A1)			
	No specific National Differences for this Country		N/A

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict
Sweden (SS-EN 60601-1:2006+A11:2011+A1:2013+AC1:2014)			
	No specific National Differences for this Country		N/A

Collateral/Particular Standard Enclosures

Enclosures

Supplement ID	Description
N/A	No Collateral or Particular standards apply.

IEC 60601-1			
Clause	Requirement + Test	Result - Remark	Verdict

---------------------------------------END OF MAIN REPORT---------------------------------------

APPENDIX A: Enclosures

All Enclosures associated with this report are shown below.

Enclosures

Supplement - (ID)	Description
Diagrams - (01)	: Inductor (L1)
Diagrams - (02)	: Inductor (L2)
Diagrams - (03)	: Inductor (L3, L4)
Diagrams - (04)	: Inductor (L5)
Diagrams - (05)	: Inductor (L9)
Diagrams - (06)	: CHD250PSXXYY - Transformer (T1)
Diagrams - (07)	: Alternate - Transformer (T1)
Diagrams - (08)	: Alternate - Transformer (T1)
Diagrams - (09)	: Alternate - Transformer (T1)
Diagrams - (10)	: Alternate - Transformer (T1)
Diagrams - (11)	: CHD250PSXXYY - Transformer (T2, T3)
Diagrams - (12)	: Heatsinks - Mosfet (TR2-TR5), Diode (D5, D6)
Diagrams - (13)	: CHD250PSXXYY: Cover Top/Bottom
Diagrams - (14)	: CHD250PSXXYY - Transformer (T1)
Diagrams - (15)	: Stand-by Output Transformer (T1) - For models with suffix "A"
Diagrams - (16)	: Stand-by Output Inductor (L1) - For models with suffix "A"
Licenses - (01)	: Optocoupler - Lite On, Type LTV-816 Series
Licenses - (02)	: Optocoupler - Renesas (NEC), Type PS2561 Series
Licenses - (03)	: Optocoupler - Vishay, Type SFH6156 series
Marking Label - (01)	: Marking Plate
Marking Label - (02)	: Trade name
Miscellaneous - (01)	: Letter of Assurance
Miscellaneous - (02)	: Output Ratings
Miscellaneous - (03)	: Rationale for waiving the ball pressure test
Photographs - (01)	: Top View with Cover
Photographs - (02)	: Input Side View with Cover
Photographs - (03)	: Output Side View with Cover
Photographs - (04)	: Internal View
Photographs - (05)	: Top View without Cover
Photographs - (06)	: Bottom view of the PWB
Schematics + PWB - (01)	: Component/PWB Trace Layout
Schematics + PWB - (02)	: PWB Component Layout - Standby Board (For models with "A"suffix)
Schematics + PWB - (03)	: Electrical Schematics

Schematics + PWB - (04)	: Electrical Schematics

Diagrams - (01) Inductor (L1)

Diagrams - (01) Inductor (L1)

L1

REVISIONS

REV	ECO	DESCRIPTION	CHECK	DATE	ENGR	DATE
01		1ST PROTOTYPE	CFW		SJT	05NOV13
A		PRODUCTION RELEASE	CFW	19Dec13	MJB	19Dec13
B	C4405	NOTE 4 WAS: '..TRIM WIRES TO 4mm..'	MJB	19JUN14	SJT	19JUN14

DWG.NO. 10016094 SHT 1 REV B

NOTES: SEE SHEET 3.

THIRD ANGLE PROJ.

PLOTTED 19-06-2014

NEXT ASSY	USED ON
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TOLERANCE		
XX	XXX	ANGLE
	SEE NOTE	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM

CONTRACT NO. .

APPROVALS	DATE
DRAWN SJT	05NOV13
CHECKED CFW	19Dec13
ENGINEER BISI	19Dec13
CUST. APPV'L .	.

CAD DWG NO 10016094B0.DWG

XP Power Limited.
FYFIELD ROAD, ONGAR, ESSEX, CM5 0GN

TITLE
INDUCTOR ASSY
COMMON MODE INPUT SMALL
CHD250

SIZE	DWG.NO	REV
A	10016094	B

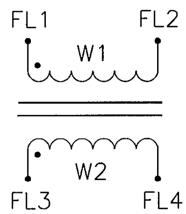
SCALE NONE SHT 1 OF 4

Diagrams - (01) Inductor (L1)

REVISIONS
REVISIONS-SEE SHEET ONE

DWG.NO. 10016094 SHT 2 REV B

A. SCHEMATIC DIAGRAM



B. WINDING TABLE

ITEM	WINDING	TURNS	WIRE	START	FINISH	COMMENTS
2 (OR SEE NOTE 6)	W1	31T	0.80mm ECW HEAVY	FL1	FL2	W1 & W2 TO BE SEPARATED BY 1.5mm ±0.2mm
2 (OR SEE NOTE 6)	W2	31T	0.80mm ECW HEAVY	FL3	FL4	

TEST SPECIFICATIONS

INDUCTANCE
7.2mH MIN @ 1KHz / 0.5Vac

LEAKAGE INDUCTANCE

FLASH TEST
FROM W1 (FL1, FL2) TO W2 (FL3, FL4)
1500 Vac rms 1 MINUTE (NO BREAKDOWN).

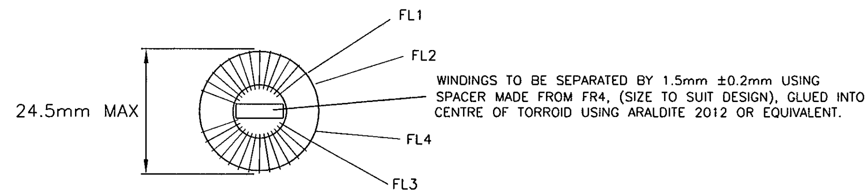
SIZE	DWG.NO	REV
A	10016094	B
SCALE: NONE		SHT 2 OF 4

Diagrams - (01) Inductor (L1)

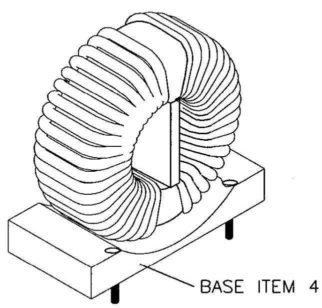
REVISIONS
REVISIONS–SEE SHEET ONE

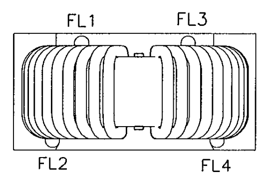
DWG.NO. 10016094 SHT 3 REV B

CONSTRUCTION – STAGE 1



CONSTRUCTION – STAGE 2





CONSTRUCTION NOTES.

1. MATERIAL : SEE SEPARATE BILL OF MATERIALS.

2. No. OF TURNS TO BE EXACT. WINDING TO BE NEAT AND FLAT WITH MINIMAL CROSSING OF TURNS.

3. AFTER WINDING, PLACE ON BASE ITEM 4 AND PASS WIRES DOWN THROUGH HOLES AS INDICATED. USE ARALDITE 2012 OR EQUIV. TO SECURE WINDING TO BASE AND A MIN. OF 2 WIRES INTO HOLES IN BASE.

4. FINALLY STRIP, TIN AND TRIM WIRES TO 3mm ±0.5mm IN LENGTH. (MEASURED FROM UNDERSIDE OF BASE ITEM 4).

5. FINISHED PART TO BE INDELIBLY MARKED WITH DWG No, REVISION NUMBER AND BATCH / DATE CODE.

6. EQUIVALENT TO MEET XP CLASS 155 (F) INSULATION REQUIREMENTS WHERE APPLICABLE.

7. CLASS 155 (F) INSULATION SYSTEM.

SIZE	DWG.NO		REV
A	10016094		B
SCALE: NONE		SHT 3 OF 4	

Diagrams - (01) Inductor (L1)

REVISIONS
REVISIONS-SEE SHEET ONE

DWG.NO. 10016094 SHT 4 REV B

INSPECTION LIST

1. TEST LIMITS.
2. WINDINGS ARE SEPARATED BY 1.5mm.
3. No. OF TURNS ARE EXACT.

SIZE	DWG.NO	REV
A	10016094	B
SCALE: NONE	SHT 4 OF 4	

Diagrams - (02) Inductor (L2)

Diagrams - (02) Inductor (L2)

REVISIONS

REV	ECO	DESCRIPTION	CHECK	DATE	ENGR	DATE
01		1st PROTOTYPE	CFW		SJT	19JUN12
A		RELEASE TO PRODUCTION			SJT	18SEP12

DWG.NO. 10014243 SHT 1 REV A

NOTES: SEE SHEET 3.

THIRD ANGLE PROJ.

PLOTTED 18-09-2012

NEXT ASSY	USED ON
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.	CCB200

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TOLERANCE

XX	XXX	ANGLE
	SEE NOTE	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM

CONTRACT NO. .

APPROVALS		DATE
DRAWN	SJT	19JUN12
CHECKED	CFW	
ENGINEER		
CUST. APPVL	.	.

CAD DWG NO 10014243A0.DWG

XP Power Limited.
FYFIELD ROAD, ONGAR, ESSEX, CM5 0GN

TITLE: INDUCTOR ASSY INPUT, LARGE

SIZE	DWG.NO	REV
A	10014243	A

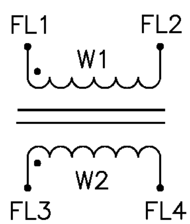
SCALE NONE SHT 1 OF 4

Diagrams - (02) Inductor (L2)

REVISIONS
REVISIONS–SEE SHEET ONE

DWG.NO. 10014243 SHT 2 REV A

A. SCHEMATIC DIAGRAM



B. WINDING TABLE

ITEM	WINDING	TURNS	WIRE	START	FINISH	COMMENTS
2 (OR SEE NOTE 6)	W1	32T	0.8mm ECW HEAVY	FL1	FL2	W1 & W2 TO BE SEPARATED BY 4mm +/–0.2mm
2 (OR SEE NOTE 6)	W2	32T	0.8mm ECW HEAVY	FL3	FL4	

TEST SPECIFICATIONS

INDUCTANCE
6.22mH MIN @ 1KHz / 0.5Vac
INDUCTANCE FOR BOTH WINDINGS TO BE WITHIN 0.35mH MAX.

LEAKAGE INDUCTANCE
> 45uH

FLASH TEST
FROM W1 (FL1, FL2) TO W2 (FL3, FL4)
1500 Vac rms 1 MINUTE (NO BREAKDOWN).

DC RESISTANCE TEST (TOTAL W1 & W2)
CONNECT FL2–FL3
MEASURE FL1 TO FL4 95m OHMS MAX

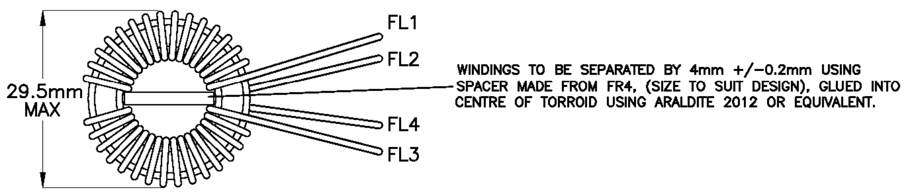
SIZE	DWG.NO	REV
A	10014243	A
SCALE: NONE		SHT 2 OF 4

Diagrams - (02) Inductor (L2)

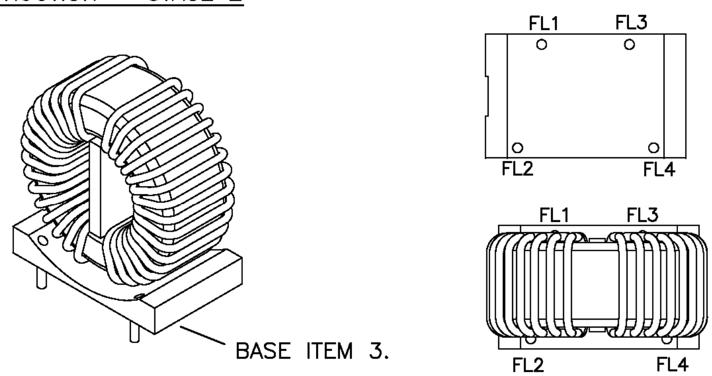
REVISIONS
REVISIONS—SEE SHEET ONE

DWG.NO. 10014243 SHT 3 REV A

CONSTRUCTION – STAGE 1



CONSTRUCTION – STAGE 2



CONSTRUCTION NOTES.

1. MATERIAL : SEE SEPARATE BILL OF MATERIALS (10014243).

2. No. OF TURNS TO BE EXACT. WINDING TO BE NEAT AND FLAT WITH MINIMAL CROSSING OF TURNS.

3. AFTER WINDING, PLACE ON BASE ITEM 3 AND PASS WIRES DOWN THROUGH HOLES AS INDICATED. USE ARALDITE 2012 OR EQUIV. TO SECURE WINDING TO BASE AND A MIN. OF 2 WIRES INTO HOLES IN BASE.

4. FINALLY STRIP, TIN AND TRIM WIRES TO 4mm IN LENGTH. (MEASURED FROM UNDERSIDE OF BASE ITEM 3).

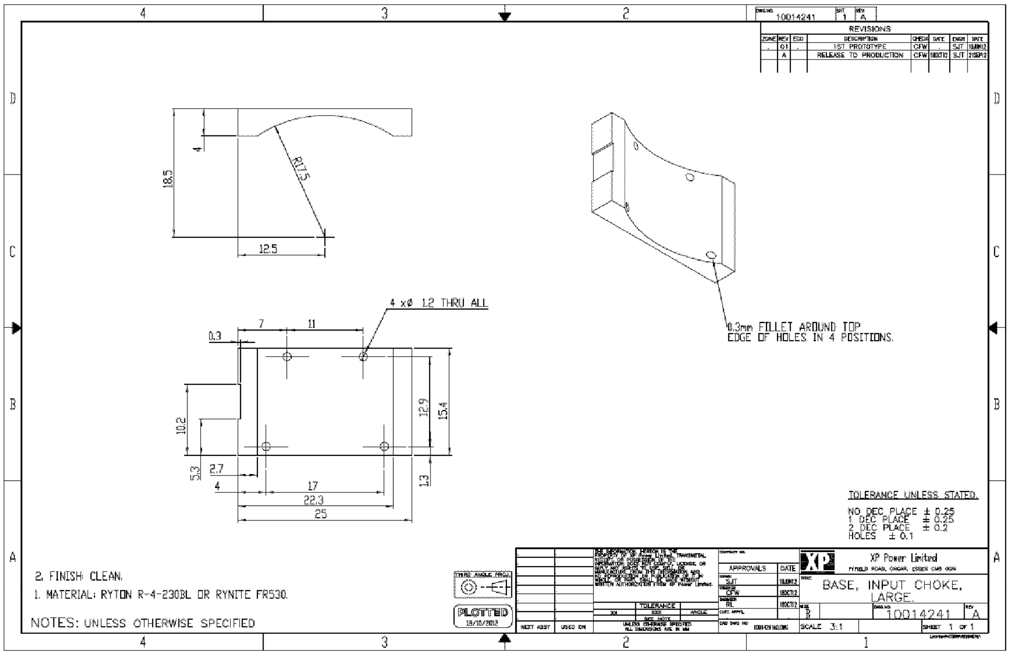
5. FINISHED PART TO BE INDELIBLY MARKED WITH '10014243', REVISION NUMBER AND BATCH / DATE CODE.

6. EQUIVALENT TO MEET XP CLASS 155 (F) INSULATION REQUIREMENTS WHERE APPLICABLE.

7. CLASS 155 (F) INSULATION SYSTEM.

SIZE	DWG.NO	REV
A	10014243	A
SCALE: NONE		SHT 3 OF 4

Diagrams - (02) Inductor (L2)



Diagrams - (03) Inductor (L3, L4)

Diagrams - (03) Inductor (L3, L4)

L3, L4

REVISIONS

REV	ECO	DESCRIPTION	CHECK	DATE	ENGR	DATE
01	.	1ST PROTOTYPE		.	SJT	18JUN13
02	.	CHANGES FROM BISI - INDUCTANCE WAS 195-220uH DC RESISTANCE WAS 90mOhm MAX CAPPING WAS 1.9mm.			MJB	05Nov13
A		PRODUCTION RELEASE	CFW	19Dec13	MJB	19Dec13
B	C4405	TRIM LEAD LENGTH WAS 4.1 ±0.5 TAPE ITEM 6 WAS 14mm.	CFW	17Nov14	MJB	17Nov14

DWG.NO. 10015618 SHT 1 REV B

TOLS UNLESS STATED
NO DEC PLACE ±0.5
1 DEC PLACE ±0.1
2 DEC PLACE ±0.05
HOLES +0.05 −0

NOTES: SEE SHEET 2.

THIRD ANGLE PROJ.

PLOTTED 19-06-2014

NEXT ASSY	USED ON
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TOLERANCE

XX	XXX	ANGLE
	SEE NOTE	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM

CONTRACT NO. .

APPROVALS		DATE
DRAWN	SJT	18JUN13
CHECKED	MJB	19Dec13
ENGINEER	BISI	19Dec13
CUST. APPV'L	.	.

CAD DWG NO 10015618B0.dwg

XP Power plc.
FYFIELD ROAD, ONGAR, ESSEX CM5 0GN

TITLE INDUCTOR ASSY PFC CHD250

SIZE	DWG.NO	REV
A	10015618	B

SCALE NONE SHT 1 OF 5

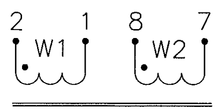
Diagrams - (03) Inductor (L3, L4)

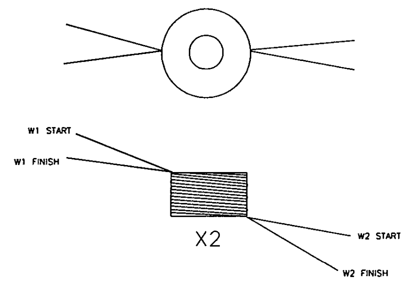
REVISIONS

REVISIONS-SEE SHEET ONE

DWG.NO. 10015618 SHT 2 REV B

A. SCHEMATIC DIAGRAM





B. WINDING TABLE X2

ITEM	WINDING	TURNS	WIRE	START	FINISH	LAYERS	TAPE ITEM 6	COMMENTS
3	W1	46T	60/0.10mm NYLON	2	1	4	1T	TAPE ITEM 6 (15mm).
4	W2	4T	0.6mm SGL ECW	8	7	1	1T	TAPE ITEM 6 (15mm).

GENERAL TEST SPECIFICATIONS

(THIS SHOULD BE PERFORMED ONCE ON FINISHED ASSEMBLY.)

INDUCTANCE TEST @ 10KHz 0.1VAC

1-2 167 - 192uH

RATIO TEST

TO BE EXACT (ALL WINDINGS)

FLASH TEST

FROM W1 TO W2. 1100 VAC 10 SECS.

DC RESISTANCE

W1 96mOhms MAX

CONSTRUCTION NOTES

1. MATERIAL: SEE SEPARATE BILL OF MATERIALS.

2. WINDING TO BE WOUND ON CUSTOM MANDRELL. APPLY MIN. 1 TURN OF NOMEX, ITEM 9, PRIOR TO WINDING.
ALL WINDINGS WOUND IN SAME DIRECTION. No. OF TURNS TO BE EXACT.

3. PLACE WASHER, ITEM 12, ON EACH CORE BEFORE ASSEMBLY, THEN GLUE CORES TOGETHER AND THEN TO BASE USING ARALDITE 2012 OR EQUIVALENT.

4. FINISHED PART TO BE INDELIBLY MARKED WITH "10015618".

5. CLASS 155 (F) INSULATION SYSTEM.

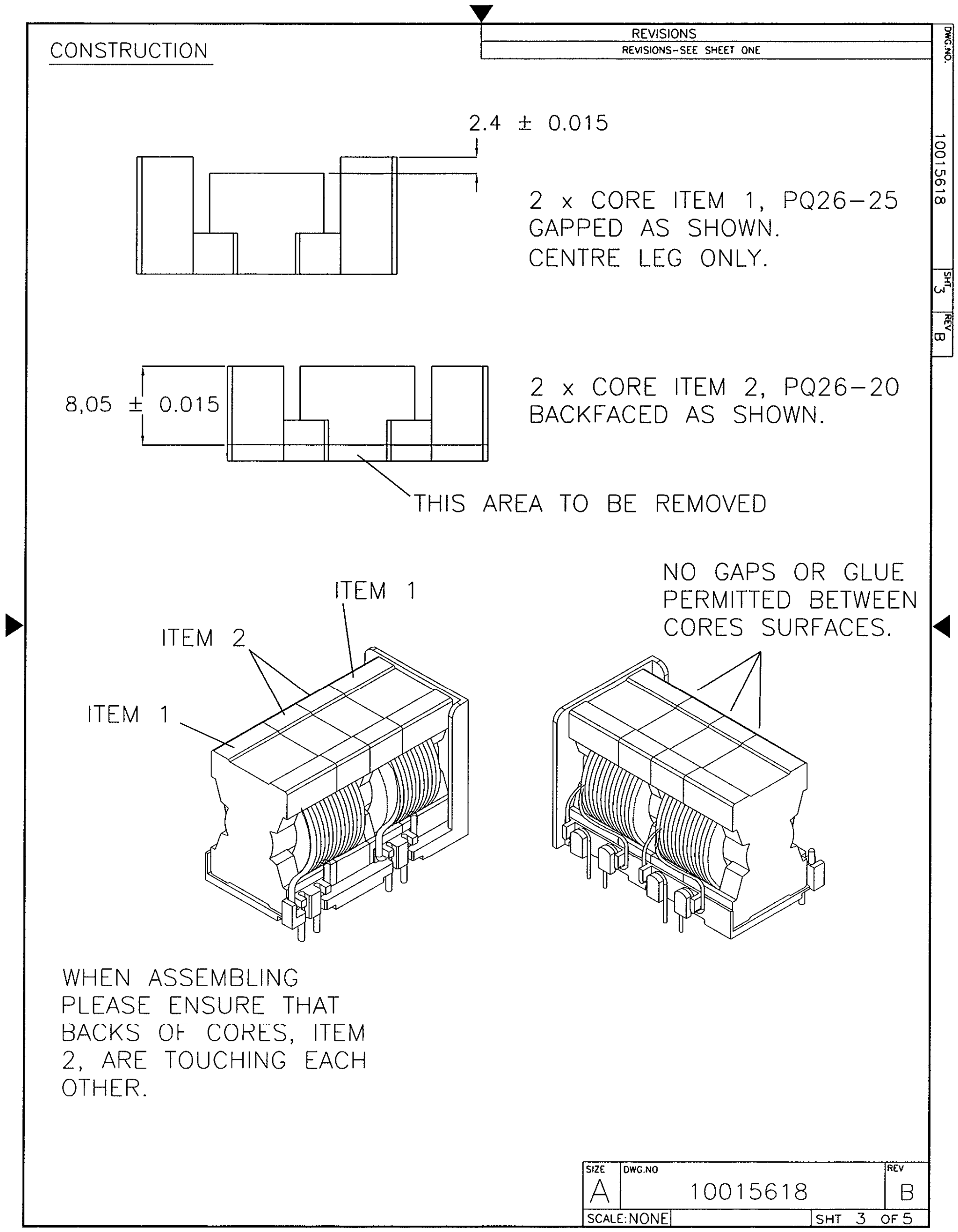
6. EQUIVALENT TO MEET XP CLASS (F) INSULATION REQUIREMENTS WHERE APPLICABLE.

7. VACUUM IMPREGNATE WITH VARNISH. CLEAN VARNISH OFF LEADS.

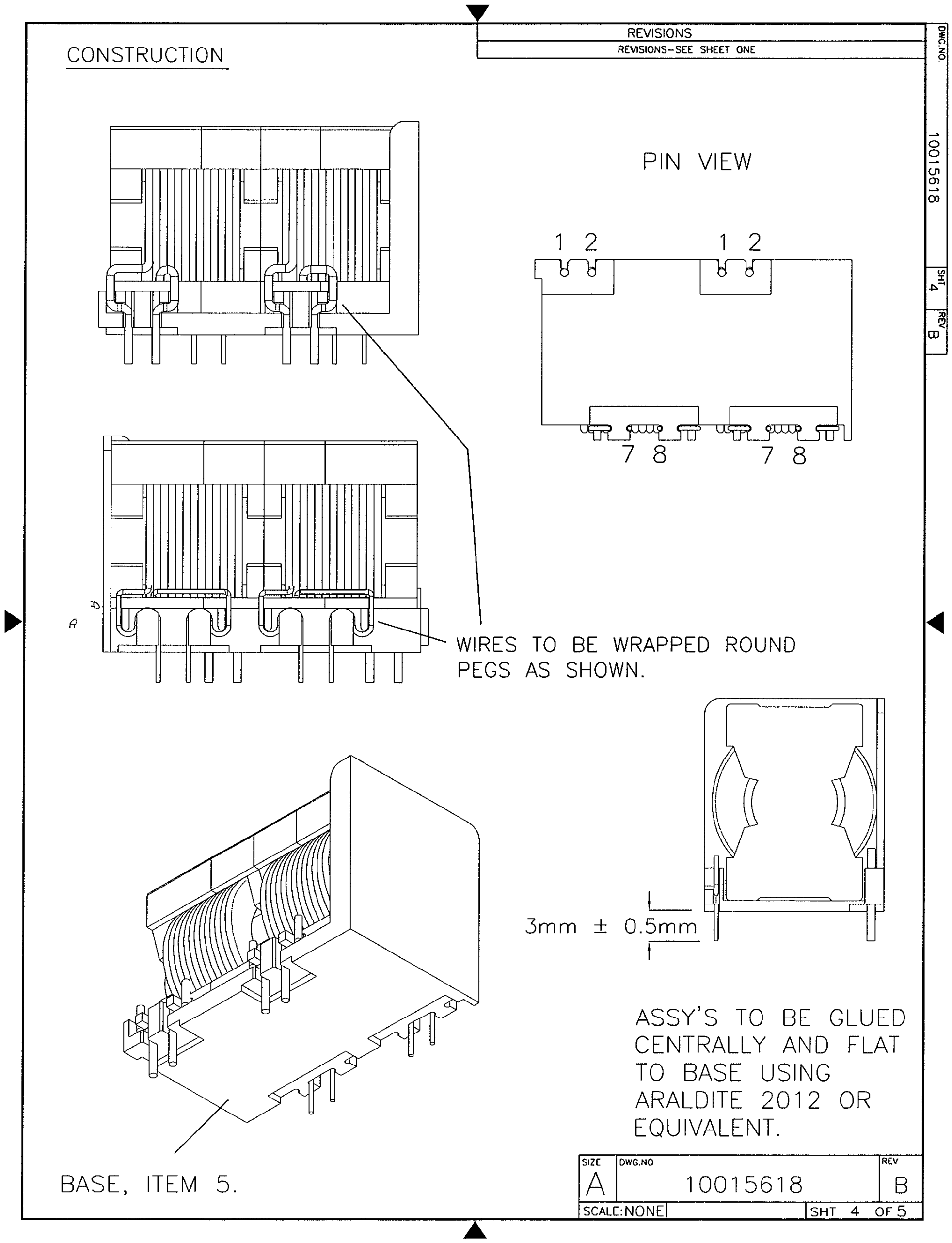
NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	DWG.NO	REV
A	10015618	B
SCALE: NONE	SHT 2 OF 5	

Diagrams - (03) Inductor (L3, L4)



Diagrams - (03) Inductor (L3, L4)



Diagrams - (03) Inductor (L3, L4)

REVISIONS
REVISIONS–SEE SHEET ONE

DWG.NO. 10015618 SHT 5 REV B

INSPECTION LIST.

1. TEST SPECIFICATION.
2. TURNS RATIO.

SIZE	DWG.NO	REV
A	10015618	B
SCALE: NONE	SHT 5 OF 5	

Diagrams - (04) Inductor (L5)

Diagrams - (04) Inductor (L5)

L5

REVISIONS

REV	ECO	DESCRIPTION	CHECK	DATE	ENGR	DATE
01	.	1ST PROTOTYPE			JRB	31Jul13
A		PRODUCTION RELEASE	MJB	20Dec13	JRB	20Dec13

TOLS UNLESS STATED
NO DEC PLACE ±0.5
1 DEC PLACE ±0.1
2 DEC PLACE ±0.05
HOLES +0.05 −0

THIRD ANGLE PROJ

PLOTTED

NOTES: SEE SHEET 2.

NEXT ASSY	USED ON
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.	CHD250

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TOLERANCE		
XX	XXX	ANGLE
	SEE NOTE	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM

CONTRACT NO. .

APPROVALS	DATE
DRAWN JRB	31JUL13
CHECKED MJB	20Dec13
ENGINEER BISI	20Dec13
CUST. APPV'L .	

CAD DWG NO 10015645 A0.dwg

XP Power plc.
FYFIELD ROAD, ONGAR, ESSEX CM5 0GN

TITLE
INDUCTOR ASSY
BOOST
CHD250

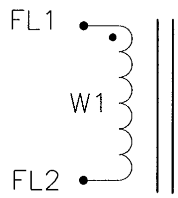
SIZE	DWG.NO	REV
A	10015645	A

SCALE NONE SHT 1 OF 4

Diagrams - (04) Inductor (L5)

REVISIONS
REVISIONS-SEE SHEET ONE

A. SCHEMATIC DIAGRAM



B. WINDING TABLE

ITEM	WINDING	TURNS	WIRE	START	FINISH	LAYERS	TAPE ITEM 7 (SEE NOTE 8)	COMMENTS
3	W1	98T	31 x 0.07mm ECW	FL1	FL2		1T	

TEST SPECIFICATIONS

(THIS SHOULD BE PERFORMED ONCE ON FINISHED ASSEMBLY.)

FLASH TEST

FROM W1 TO CORE
550 Vac rms 10 SECS
(NO BREAKDOWN).

INDUCTANCE TEST

677 – 779uH +/– 7% @ 1KHz.

DC RESISTANCE TEST

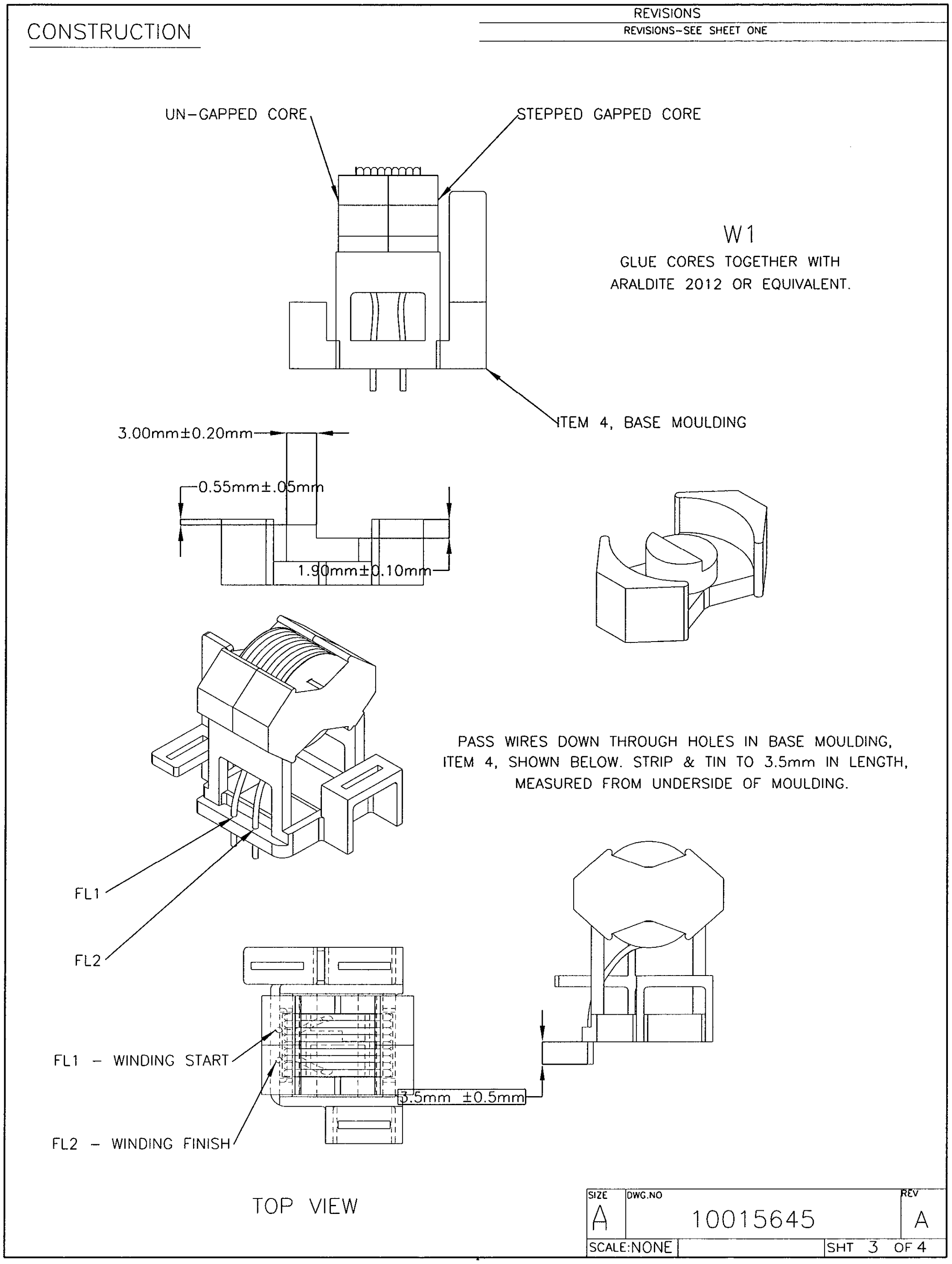
0.58 OHMS MAX.

1. MATERIAL: SEE SEPARATE BILL OF MATERIALS.
2. NUMBER OF TURNS TO BE EXACT. ALL WINDINGS TO BE IN SAME DIRECTION.
3. ONLY LEADOUT PART OF W1 IS TWISTED. SLEEVE WIRES AFTER WINDING, BEFORE ASSEMBLY WITH SLEEVING, ITEM 1 (OR SEE NOTE 8).
4. FINISHED PART TO BE INDELIBLY MARKED WITH "DWG.NO. & REV"
5. VACUUM IMPREGNATE WITH VARNISH. CLEAN VARNISH OFF LEADS.
6. FIT ONE WASHER, ITEM 5, INTO EACH CORE, ITEM 2.
7. CORES GLUED AND CORES TO BASE USING ARALDITE 2012 OR EQUIVALENT. (SEE NOTE 8).
8. EQUIVALENT TO MEET XP CLASS (F) INSULATION REQUIREMENTS WHERE APPLICABLE.

NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	DWG.NO	REV
A	10015645	A
SCALE: NONE		SHT 2 OF 4

Diagrams - (04) Inductor (L5)



Diagrams - (04) Inductor (L5)

REVISIONS

REVISIONS-SEE SHEET ONE

INSPECTION LIST.

1. TEST SPECIFICATION.
2. TURNS RATIO.

SIZE	DWG.NO	REV
A	10015645	A
SCALE: NONE	SHT 4 OF 4	

Diagrams - (05) Inductor (L9)

Diagrams - (05) Inductor (L9)

REVISIONS

REV	ECO	DESCRIPTION	CHECK	DATE	ENGR	DATE
01		1ST PROTOTYPE	RL	11JAN12	SJT	03JAN12
02		2nd PROTOTYPE			SJT	10AUG12
A		RELEASE TO PRODUCTION			SJT	18SEP12

DWG.NO. 10013080 SHT. 1 REV A

NOTES: SEE SHEET 3.

THIRD ANGLE PROJ.

PLOTTED 18-09-2012

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TOLERANCE

XX	XXX	ANGLE
	SEE NOTE	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM

NEXT ASSY | USED ON

CONTRACT NO. .

APPROVALS	DATE
DRAWN SJT	03JAN12
CHECKED GH	11JAN12
ENGINEER RL	11JAN12
CUST. APPV'L .	.

CAD DWG NO 10013080A0.dwg

XP Power Limited.
FYFIELD ROAD, ONGAR, ESSEX, CM5 0GN

TITLE INDUCTOR ASSY, OUTPUT (ROD CORE) CCB200 PS12

SIZE A | DWG.NO 10013080 | REV A

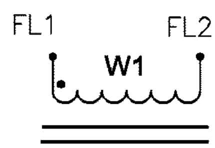
SCALE NONE | SHT 1 OF 4

Diagrams - (05) Inductor (L9)

REVISIONS
REVISIONS–SEE SHEET ONE

DWG.NO. 10013080 SHT 2 REV A

A. SCHEMATIC DIAGRAM



B. WINDING TABLE

ITEM	WINDING	TURNS	WIRE	START	FINISH	LAYERS	SLEEVE
2 OR EQUIVALENT	W1	3.5	1.90MM HEAVY	FL1	FL2	1	

TEST SPECIFICATIONS

INDUCTANCE:– 0.326uH +/– 30% @ 10KHz 0.5Vac

LEAKAGE INDUCTANCE:– N/A

FLASH TEST:– N/A

DC RESISTANCE:– 0.6mOhm MAX.

SIZE	DWG.NO	REV
A	10013080	A
SCALE: NONE	SHT 2 OF 4	

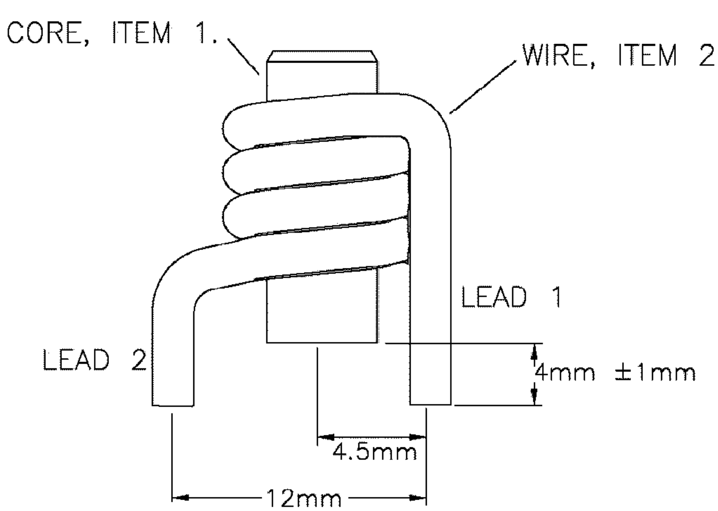
Diagrams - (05) Inductor (L9)

REVISIONS

REVISIONS–SEE SHEET ONE

DWG.NO. 10013080 SHT 3 REV A

C. CONSTRUCTION



GENERAL TOL. ±0.5mm UNLESS OTHERWISE STATED.

TO BE WOUND AND FORMED ON JIG

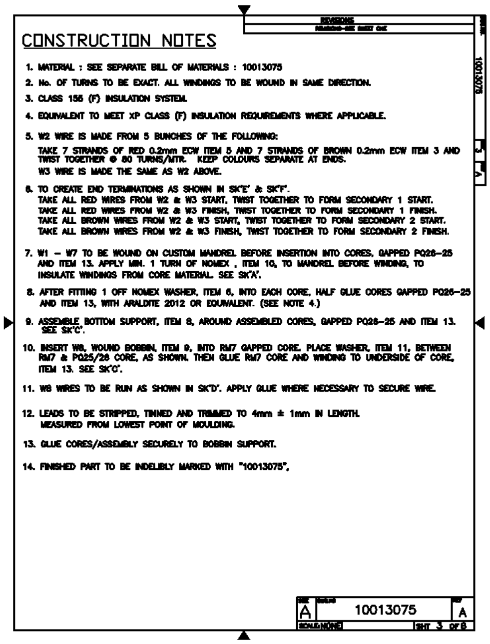
CONSTRUCTION NOTES

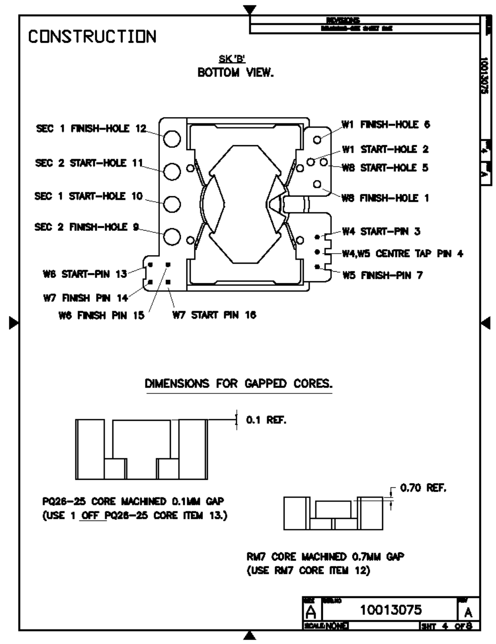
1. MATERIAL : SEE SEPARATE BILL OF MATERIALS : 10013080.
2. No. OF TURNS TO BE EXACT.
3. LEADS TO BE STRIPPED OF COPPER & TINNED 4mm ±1mm.
4. MARK BOTH LEADS, 1 & 2. FLYING LEAD 1 TO BE TIGHT AGAINST WINDINGS ON CORE.
5. FINISHED PART TO BE INDELIBLY MARKED WITH " 10013080 ", REVISION NUMBER AND BATCH / DATE CODE OR BAG AND TAG.
6. ROD CORE GLUED INTO WINDING WITH ARALDITE 2012 OR EPOXY RESIN EQUIVALENT. SEE NOTE 7.
7. EQUIVALENT TO MEET XP CLASS 155 (F) INSULATION REQUIREMENTS WHERE APPLICABLE.

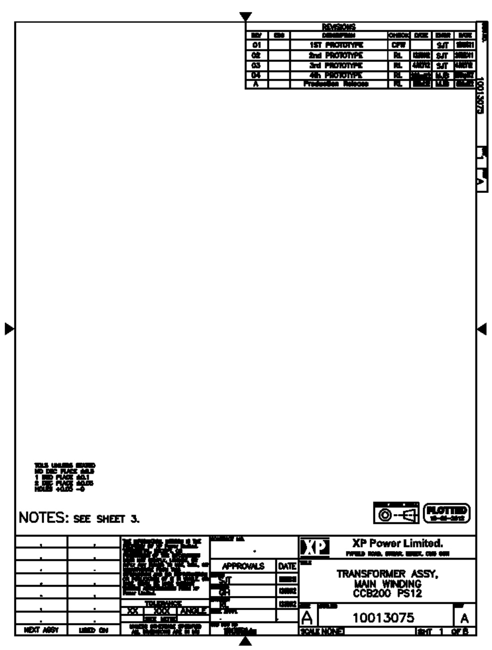
SIZE	DWG.NO	REV
A	10013080	A
SCALE:NONE	SHT 3 OF 4	

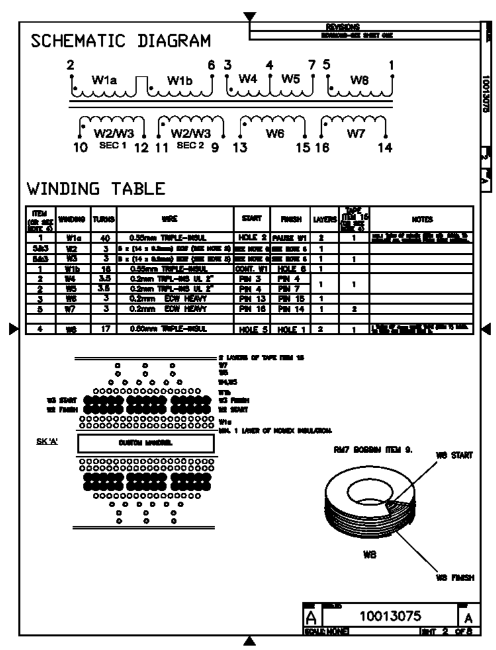
Diagrams - (06) CHD250PSXXYY - Transformer (T1)

Diagrams - (06) CHD250PSXXYY - Transformer (T1)

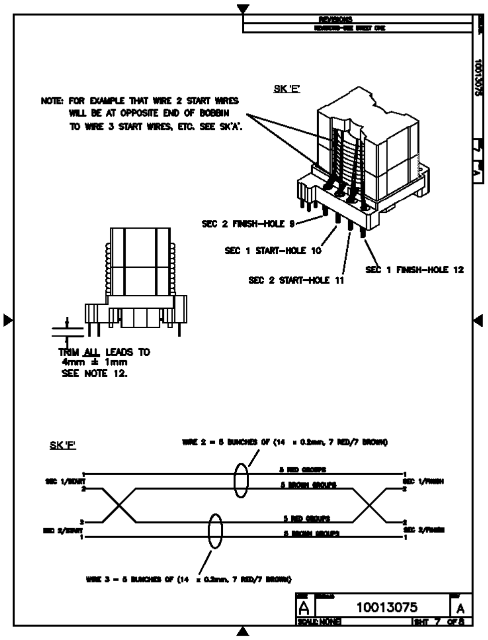


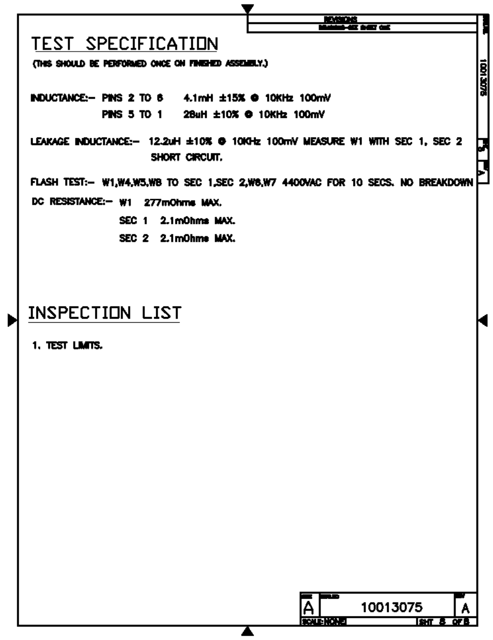






Diagrams - (06) CHD250PSXXYY - Transformer (T1)





TEST SPECIFICATION

(THIS SHOULD BE PERFORMED ONCE ON FINISHED ASSEMBLY.)

INDUCTANCE:- PINS 2 TO 6 4.1mH ±15% @ 10KHz 100mV
PINS 5 TO 1 28uH ±10% @ 10KHz 100mV

LEAKAGE INDUCTANCE:- 12.2uH ±10% @ 10KHz 100mV MEASURE W1 WITH SEC 1, SEC 2 SHORT CIRCUIT.

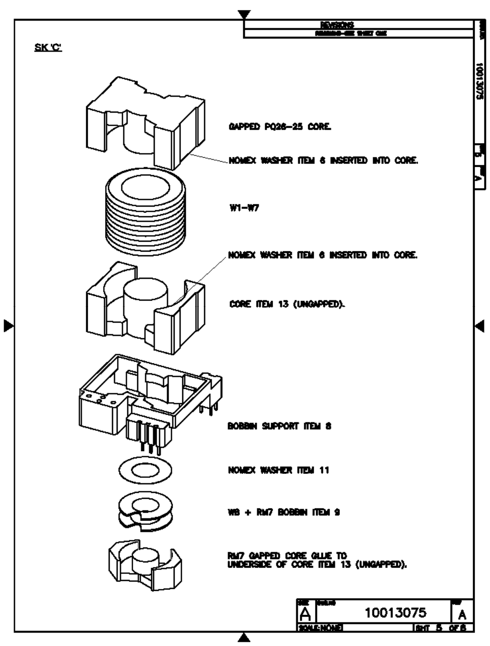
FLASH TEST:- W1,W4,W5,W8 TO SEC 1,SEC 2,W6,W7 4400VAC FOR 10 SECS. NO BREAKDOWN

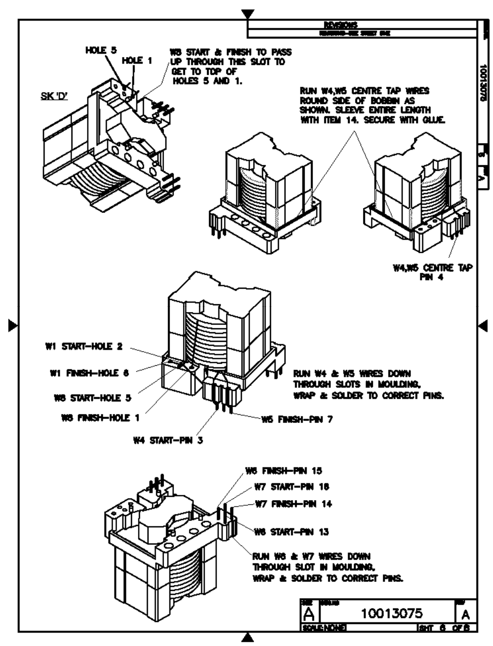
DC RESISTANCE:- W1 277mOhms MAX.
SEC 1 2.1mOhms MAX.
SEC 2 2.1mOhms MAX.

INSPECTION LIST

1. TEST LIMITS.

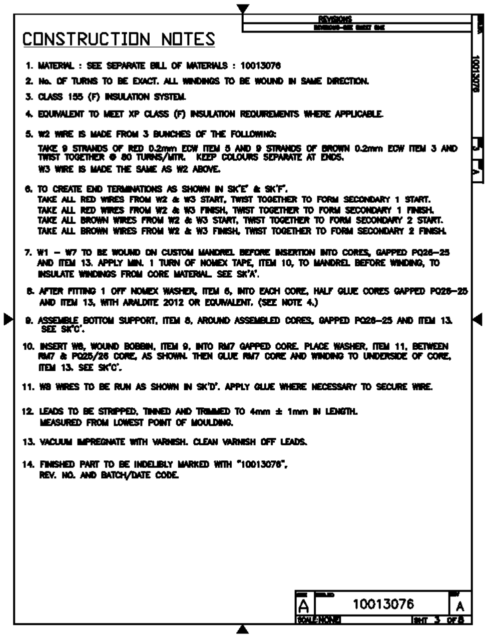
10013075 A SCALE: NONE SHT 8 OF 8

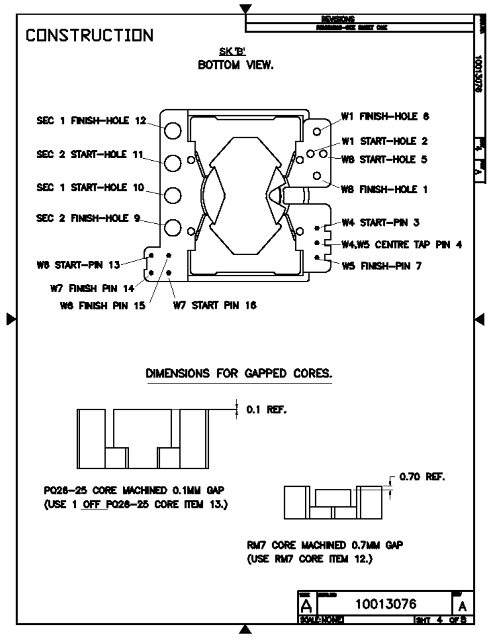


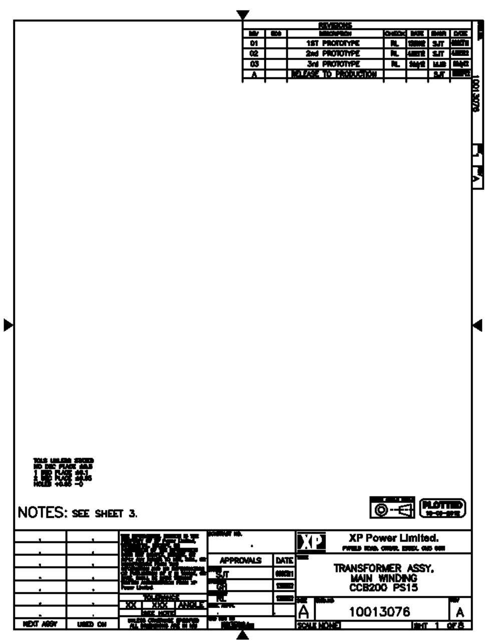


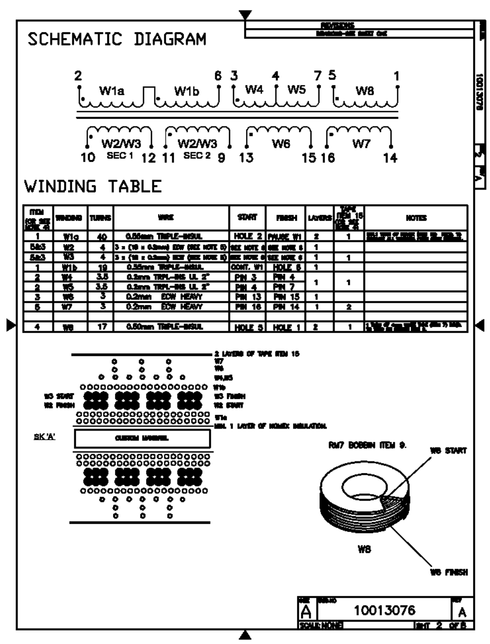
Diagrams - (07) Alternate - Transformer (T1)

Diagrams - (07) Alternate - Transformer (T1)

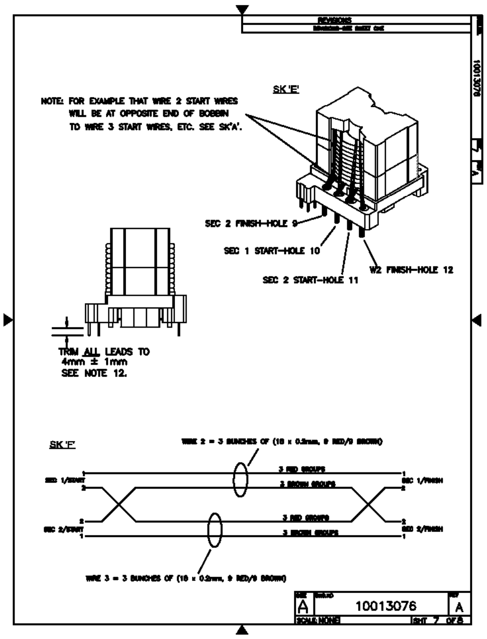


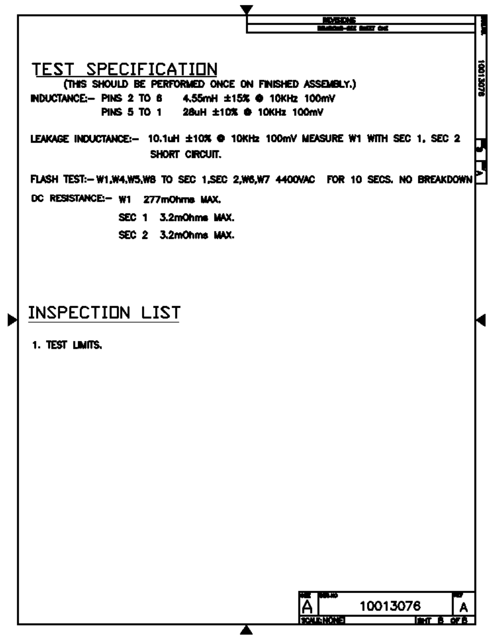


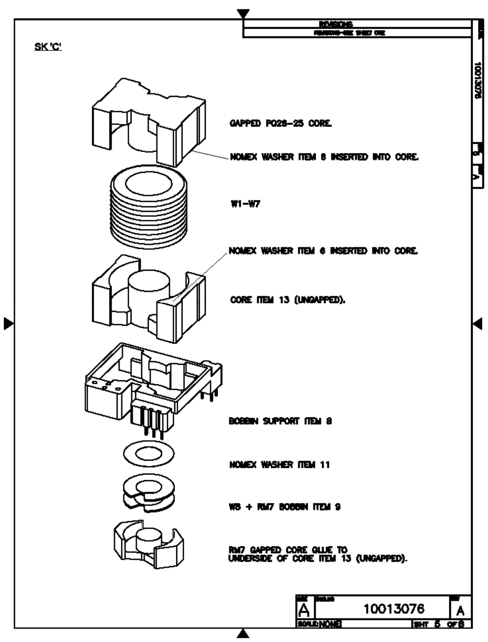


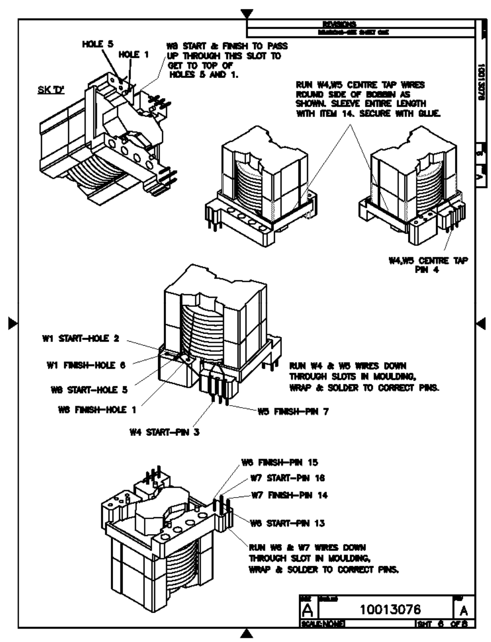


Diagrams - (07) Alternate - Transformer (T1)



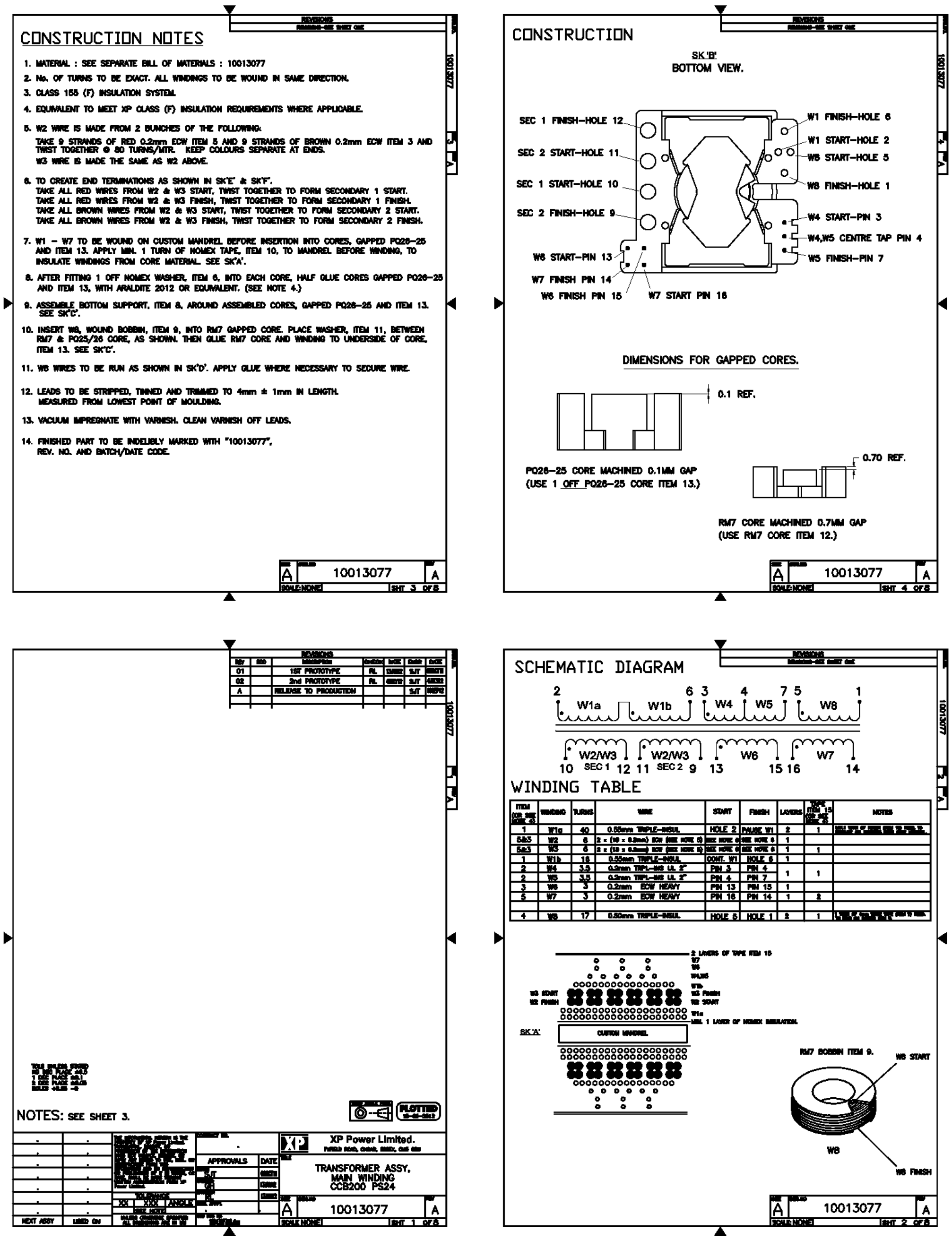




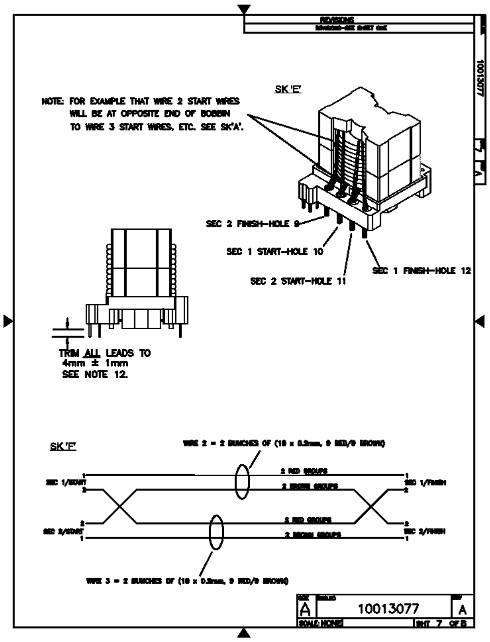


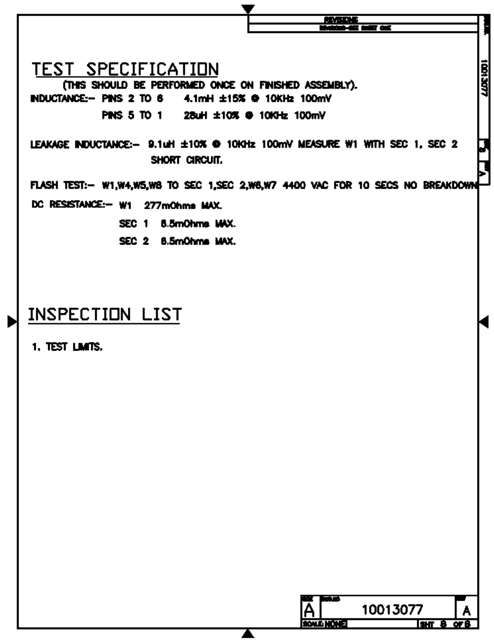
Diagrams - (08) Alternate - Transformer (T1)

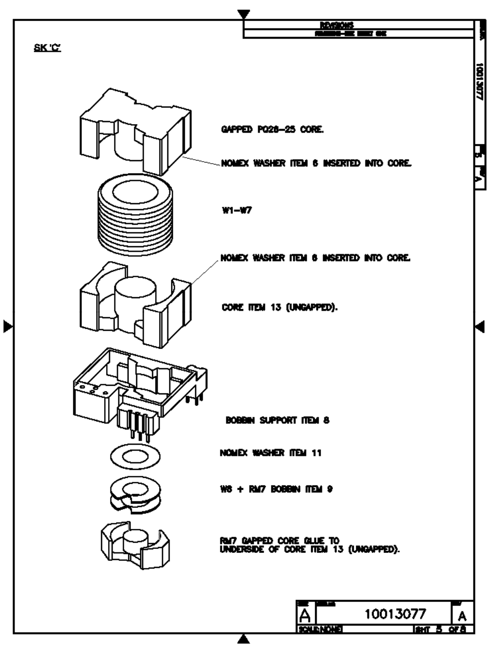
Diagrams - (08) Alternate - Transformer (T1)

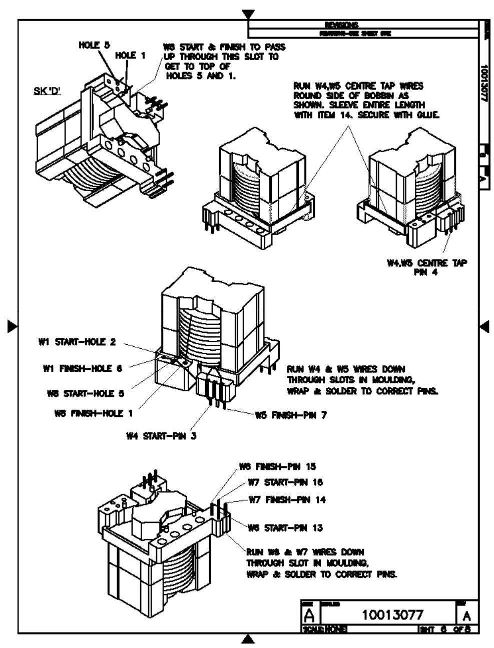


Diagrams - (08) Alternate - Transformer (T1)



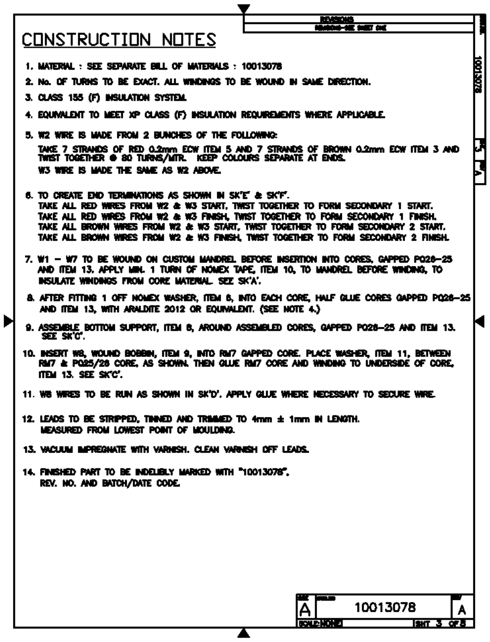


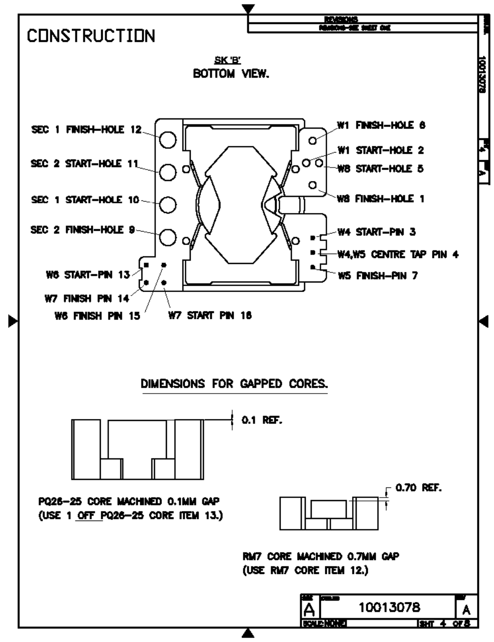


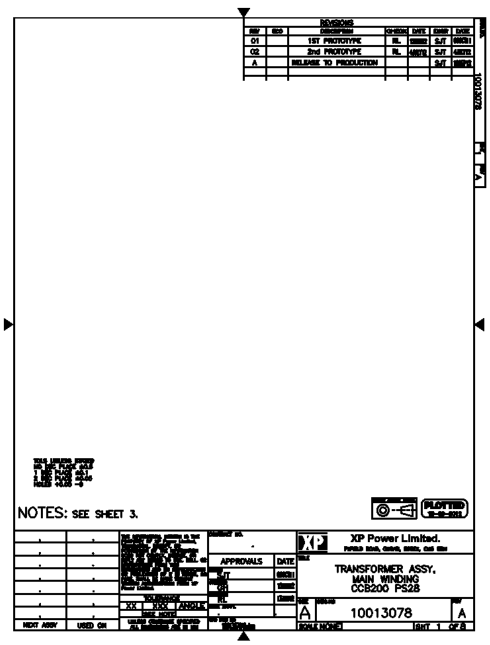


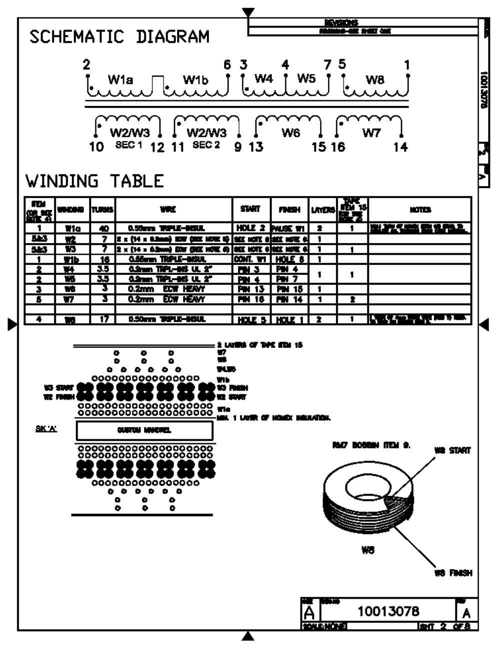
Diagrams - (09) Alternate - Transformer (T1)

Diagrams - (09) Alternate - Transformer (T1)

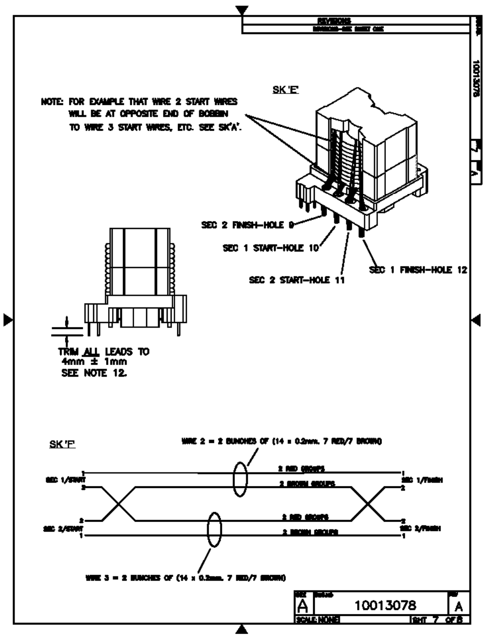


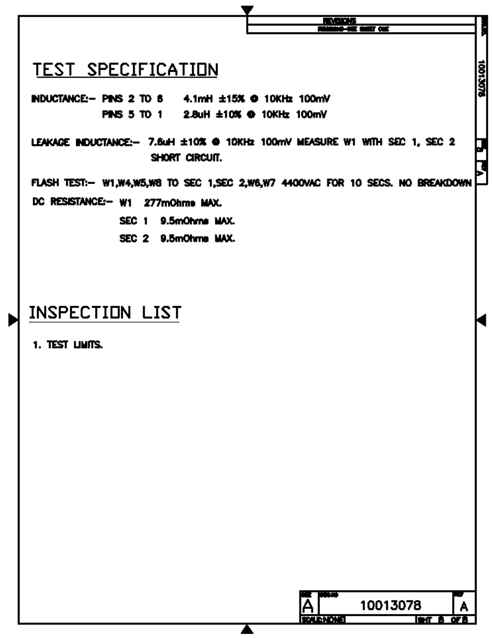


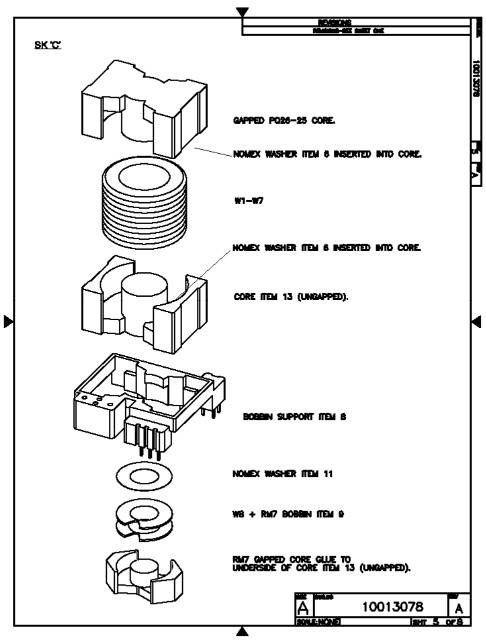


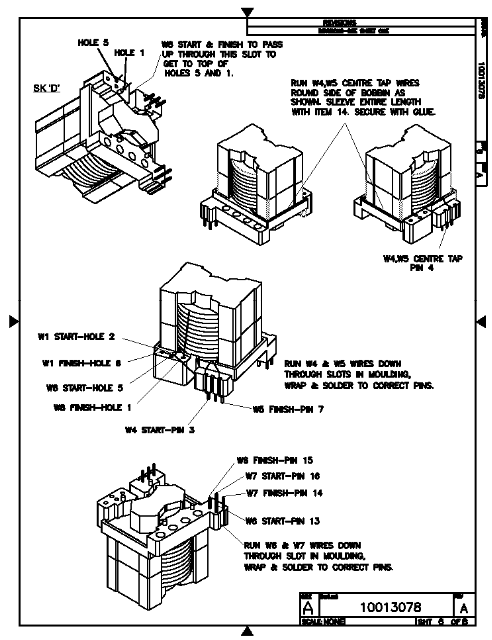


Diagrams - (09) Alternate - Transformer (T1)



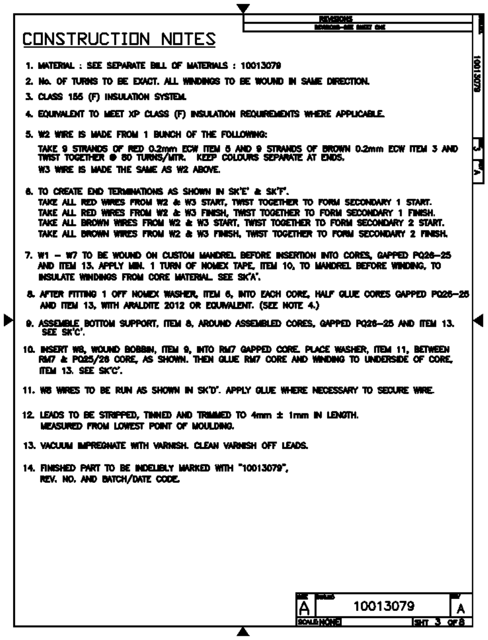


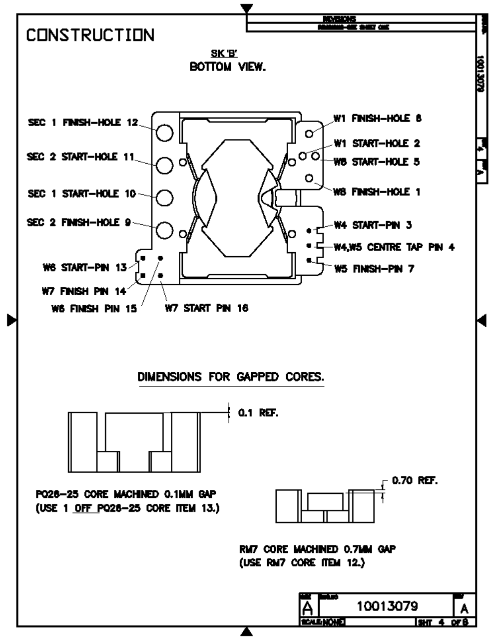


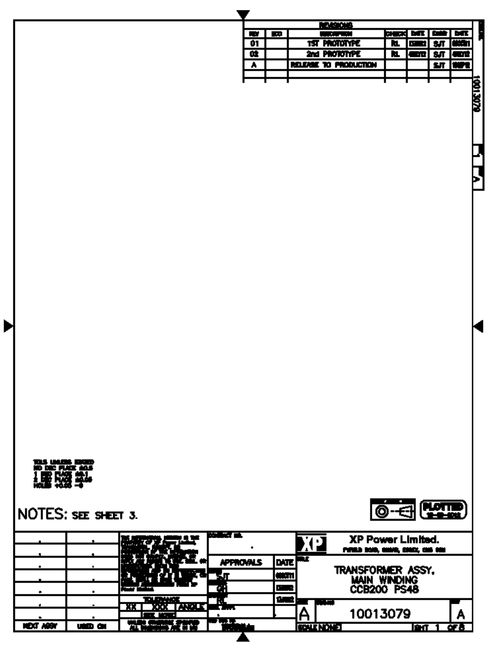


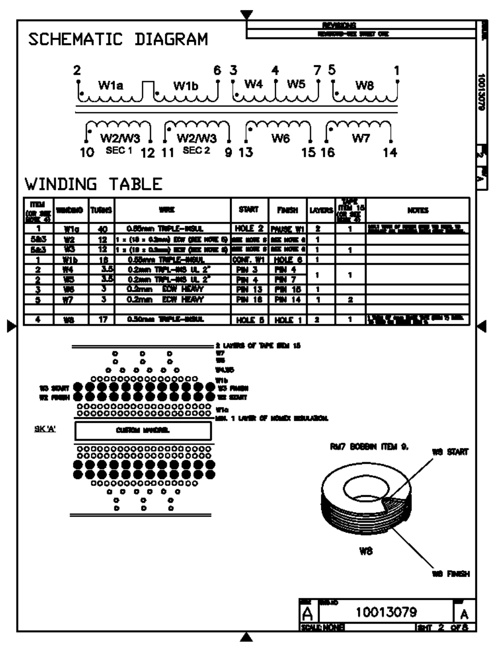
Diagrams - (10) Alternate - Transformer (T1)

Diagrams - (10) Alternate - Transformer (T1)

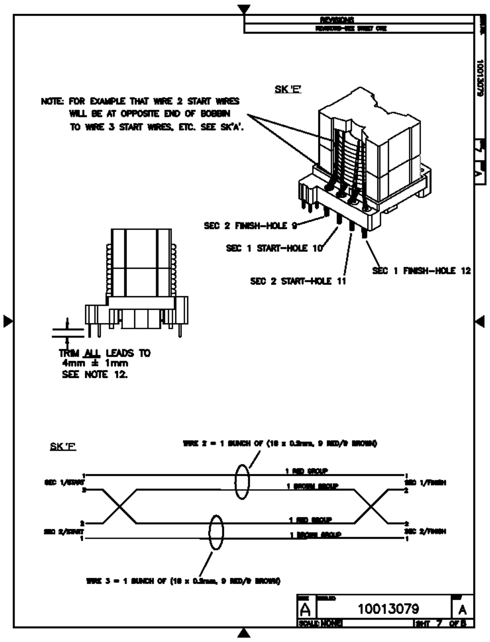


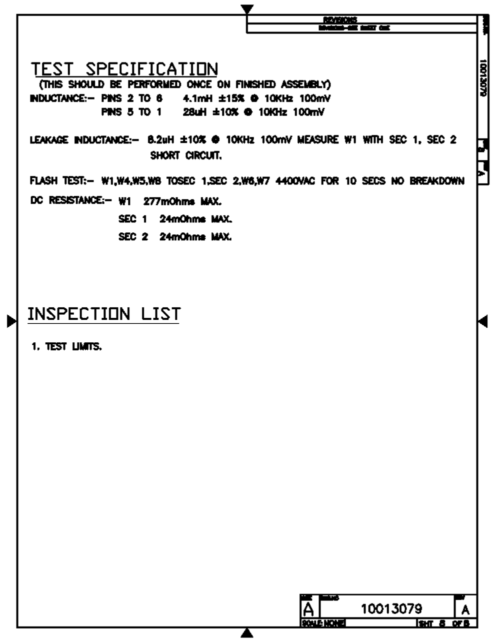


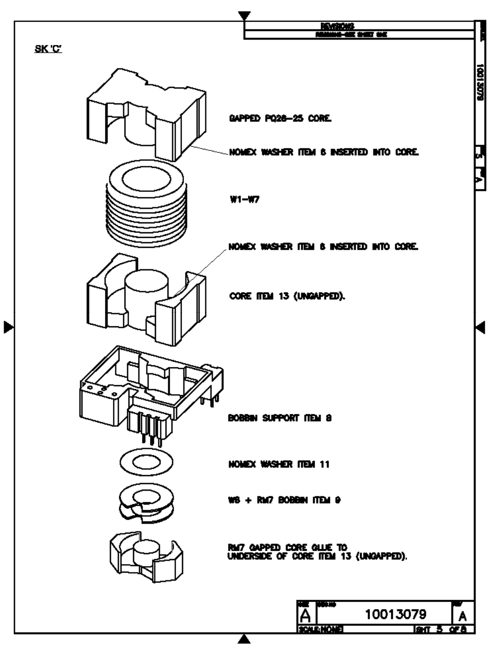


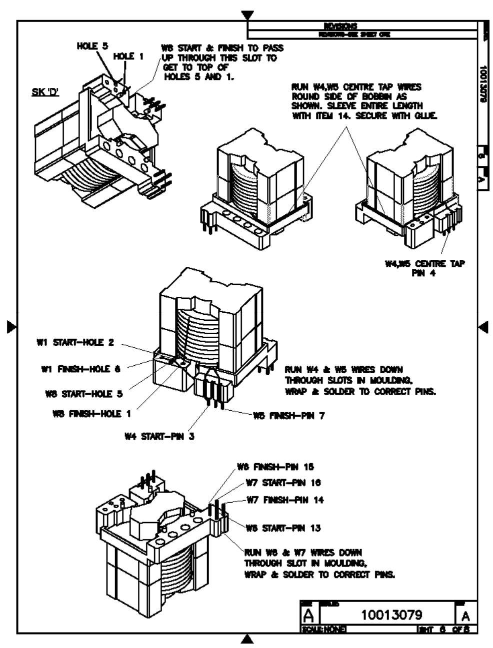


Diagrams - (10) Alternate - Transformer (T1)









Diagrams - (11) CHD250PSXXYY - Transformer (T2, T3)

Diagrams - (11) CHD250PSXXYY - Transformer (T2, T3)

REVISIONS

REV	ECO	DESCRIPTION	CHECK	DATE	ENGR	DATE
01	.	1ST PROTOTYPE	CFW		SJT	11AUG11
02	.	2ND PROTOTYPE	RL	09JAN12	SJT	03JAN12
03		3RD PROTOTYPE	CFW		SJT	28MAR12
A		RELEASE TO PRODUCTION	CFW	18OCT12	SJT	18SEP12
B	C3971	POST BETA CHANGES	CFW	05Apr13	RL	30APR13

DWG.NO. 10013074 SHT. 1 REV B

NOTES: SEE SHEET 3.

THIRD ANGLE PROJ.

PLOTTED 19-03-2013

NEXT ASSY	USED ON
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.	CCB200

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TOLERANCE

XX	XXX	ANGLE
	SEE NOTE	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM

CONTRACT NO. .

APPROVALS	DATE
DRAWN SJT	11AUG11
CHECKED	09JAN12
ENGINEER	09JAN12
CUST. APPV'L .	.

CAD DWG NO 10013074B0.dwg

XP Power Limited.
FYFIELD ROAD, ONGAR, ESSEX, CM5 0GN

TITLE
TRANSFORMER ASSY,
DRIVE WINDING
CCB200

SIZE	DWG.NO	REV
A	10013074	B

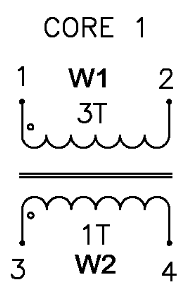
SCALE NONE SHT 1 OF 5

Diagrams - (11) CHD250PSXXYY - Transformer (T2, T3)

REVISIONS
REVISIONS—SEE SHEET ONE

DWG.NO. 10013074 SHT. 2 REV B

A. SCHEMATIC DIAGRAM



B. WINDING TABLE

ITEM	WINDING	TURNS	WIRE	START	FINISH	COMMENTS
5 (OR SEE NOTE 6)	W1	3	0.6mm SGL ECW	1	2	
3 (OR SEE NOTE 6)	W2	1	23AWG TRIPLE-INS BLACK	3	4	SLEEVE WITH ITEM 4

C. TEST SPECIFICATION

INDUCTANCE.

1–2 40uH @ 10KHz 0.1Vac REF.

3–4 4.5uH @ 10KHz 0.1Vac REF.

LEAKAGE INDUCTANCE.

FLASH TEST.

1,2 TO 3,4 4000 Vac rms 1 MINUTE (NO BREAKDOWN).
(W1) (W2)

DC RESISTANCE

SIZE	DWG.NO	REV
A	10013074	B
SCALE: NONE	SHT 2 OF 5	

Diagrams - (11) CHD250PSXXYY - Transformer (T2, T3)

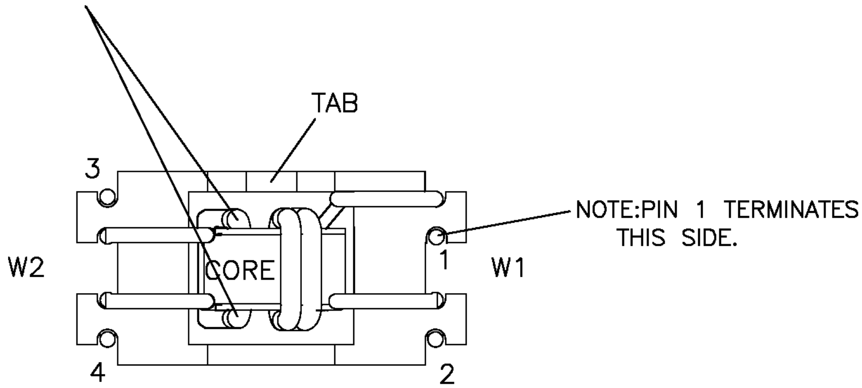
REVISIONS

REVISIONS–SEE SHEET ONE

DWG.NO. 10013074 SHT. 3 REV B

CONSTRUCTION

WHERE W2 WIRE PASSES THROUGH TORROID, SLEEVE WITH ITEM 4.
SLEEVING SHOULD EXTEND MIN. 5mm FROM WHERE WIRES EXIT TORROID,
BOTH SIDES.



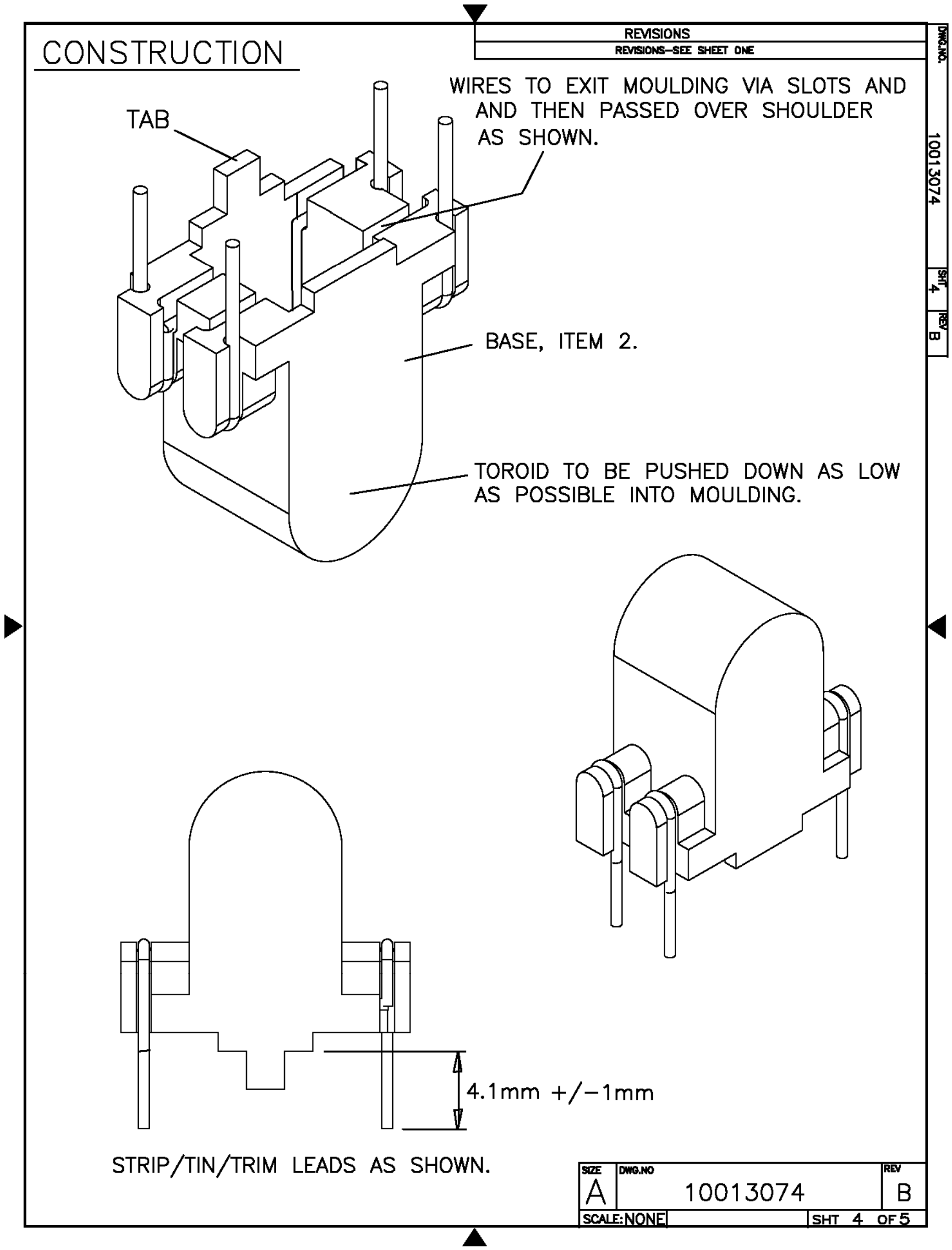
PIN VIEW

CONSTRUCTION NOTES

1. PUSH WOUND TOROID AS FAR DOWN INTO BASE AS POSSIBLE.
2. FINISHED PART TO BE INDELIBLY MARKED WITH " 10013074 ", REVISION NUMBER AND BATCH / DATE CODE.
3. No. OF TURNS TO BE EXACT FOR ALL WINDINGS.
4. LEADS TO EXIT VIA SLOTS IN BASE (ITEM 2) AND THEN PASSED OVER SHOULDERS AS SHOWN.
5. EQUIVALENT TO MEET XP CLASS 155 (F) INSULATION REQUIREMENTS WHERE APPLICABLE.
6. CLASS 155 (F) INSULATION SYSTEM.

SIZE	DWG.NO	REV
A	10013074	B
SCALE: NONE	SHT 3 OF 5	

Diagrams - (11) CHD250PSXXYY - Transformer (T2, T3)



Diagrams - (11) CHD250PSXXYY - Transformer (T2, T3)

REVISIONS
REVISIONS–SEE SHEET ONE

DWG.NO. 10013074 SHT 5 REV B

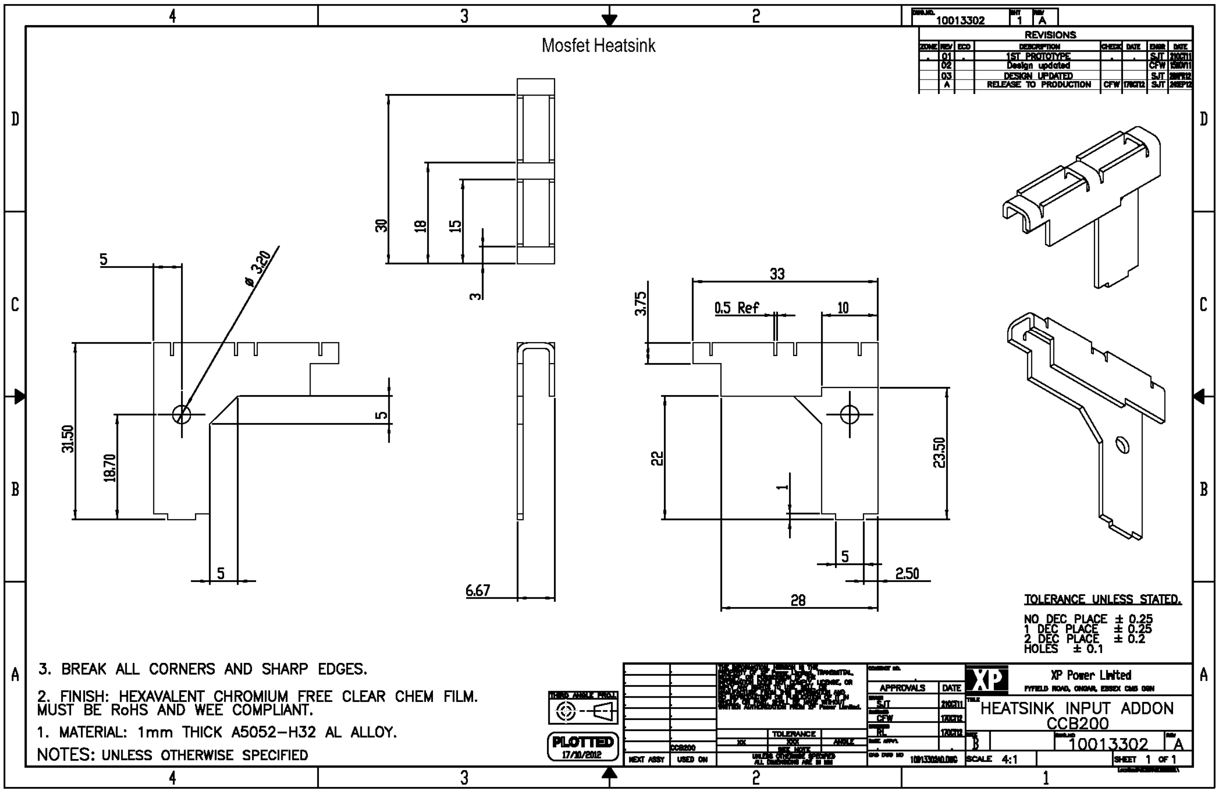
INSPECTION LIST.

1. TEST SPECIFICATION.
2. TURNS RATIO.

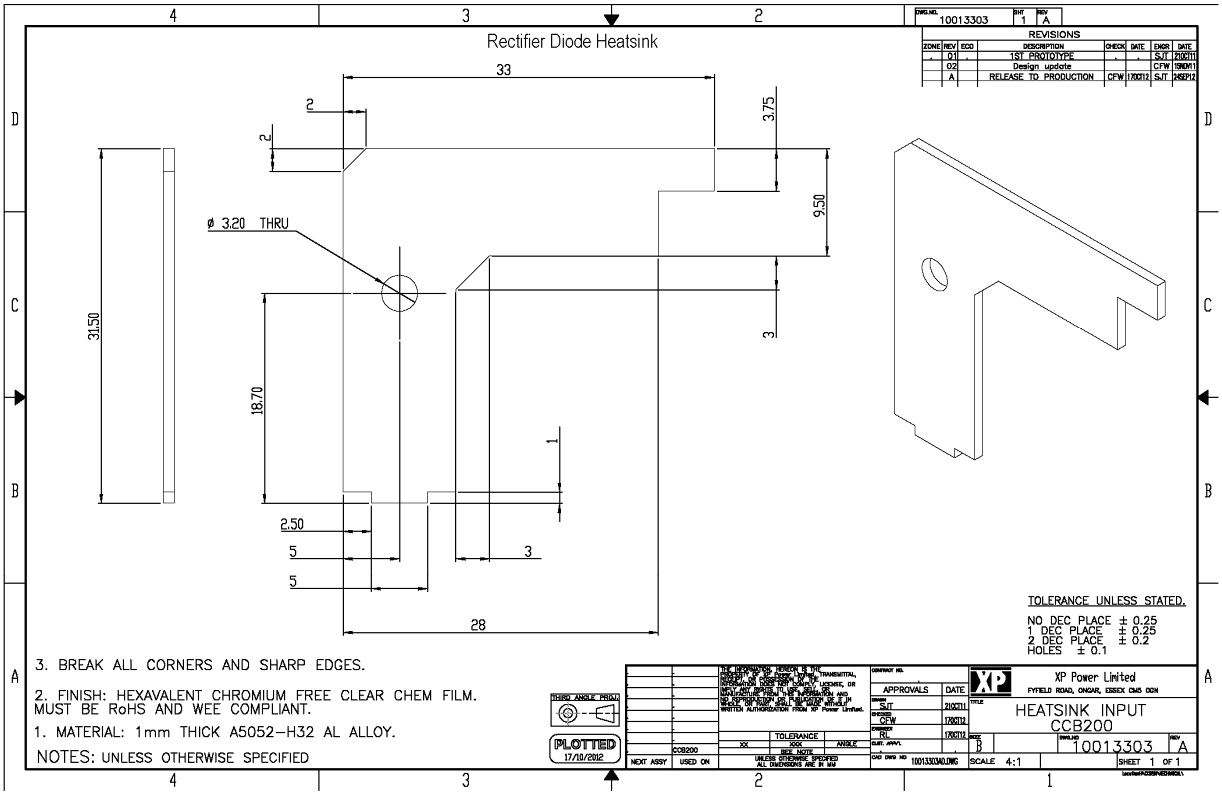
SIZE	DWG.NO	REV
A	10013074	B
SCALE: NONE		SHT 5 OF 5

Diagrams - (12) Heatsinks - Mosfet (TR2-TR5), Diode (D5, D6)

Diagrams - (12) Heatsinks - Mosfet (TR2-TR5), Diode (D5, D6)

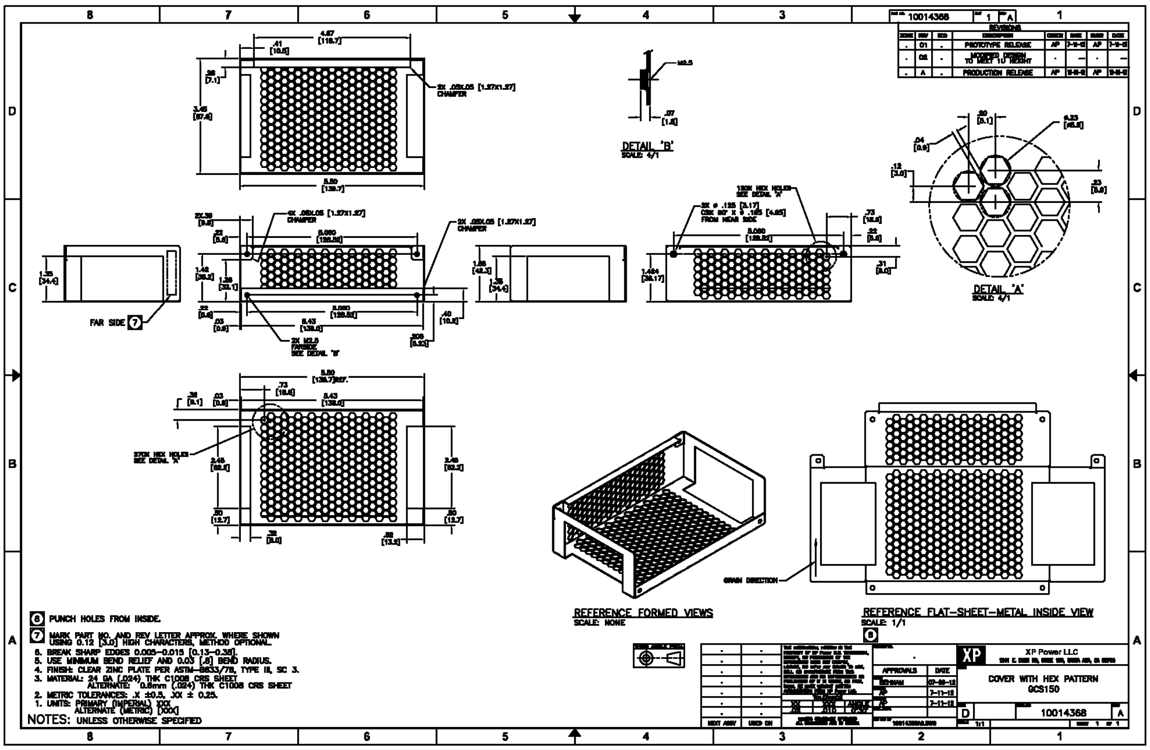


Diagrams - (12) Heatsinks - Mosfet (TR2-TR5), Diode (D5, D6)

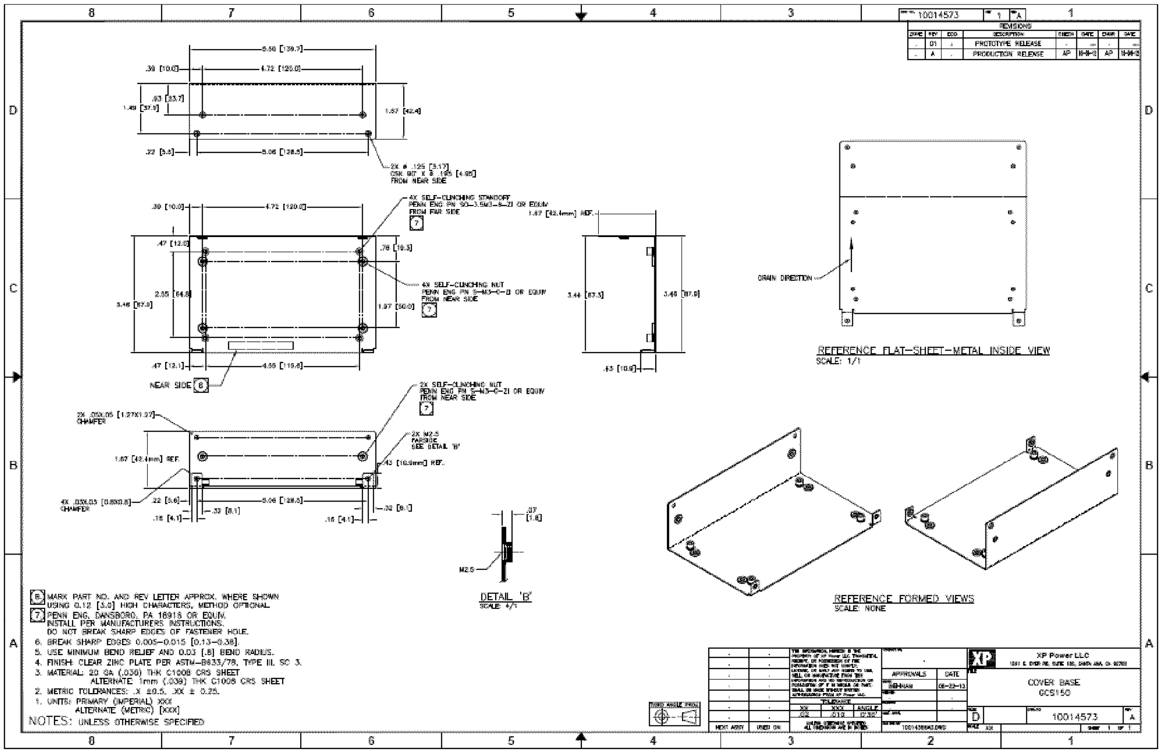


Diagrams - (13) CHD250PSXXYY: Cover Top/Bottom

Diagrams - (13) CHD250PSXXYY: Cover Top/Bottom



Diagrams - (13) CHD250PSXXYY: Cover Top/Bottom



Diagrams - (14) CHD250PSXXYY - Transformer (T1)

Diagrams - (14) CHD250PSXXYY - Transformer (T1)

REVISIONS

REV	ECO	DESCRIPTION	CHECK	DATE	ENGR	DATE
01		1ST PROTOTYPE	RL	30Jul13	MJB	30Jul13
A		PRODUCTION RELEASE	RL	28Aug13	MJB	28Aug13

DWG.NO. 10015707 SHT. 1 REV A

TOLS UNLESS STATED
NO DEC PLACE ±0.5
1 DEC PLACE ±0.1
2 DEC PLACE ±0.05
HOLES +0.05 −0

NOTES: SEE SHEET 3.

THIRD ANGLE PROJ.

PLOTTED 28-08-2013

NEXT ASSY	USED ON
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TOLERANCE

XX	XXX	ANGLE
	SEE NOTE	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM

CONTRACT NO. .

APPROVALS	DATE
DRAWN MJB	30Jul13
CHECKED CFW	28Aug13
ENGINEER LB	28Aug13
CUST. APPV'L .	.

CAD DWG NO 10015707 A0.dwg

XP Power Limited.
FYFIELD ROAD, ONGAR, ESSEX, CM5 0GN

TITLE TRANSFORMER ASSY, MAIN WINDING CCB200PS56 −XD0506 ELECTRONIC THEATRE CONTROLS

SIZE	DWG.NO	REV
A	10015707	A

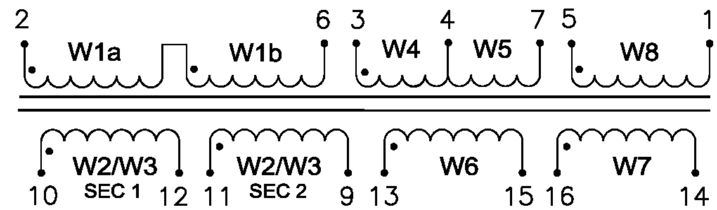
SCALE NONE SHT 1 OF 8

Diagrams - (14) CHD250PSXXYY - Transformer (T1)

REVISIONS

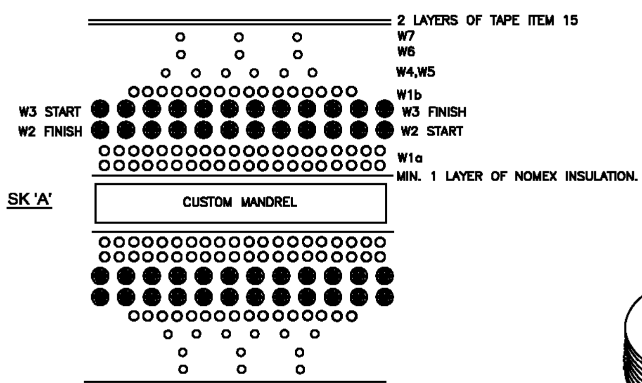
REVISIONS–SEE SHEET ONE

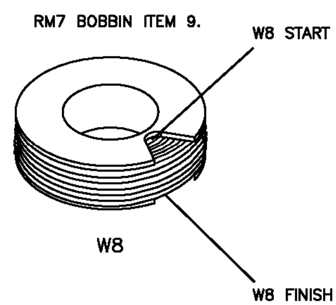
SCHEMATIC DIAGRAM



WINDING TABLE

ITEM (OR SEE NOTE 4)	WINDING	TURNS	WIRE	START	FINISH	LAYERS	TAPE ITEM 15 (OR SEE NOTE 4)	NOTES
1	W1a	40	0.55mm TRIPLE–INSUL	HOLE 2	PAUSE W1	2	1	MIN.1 TURN OF NOMEX (ITEM 10) REQD. TO INSULATE ALL WINDINGS FROM CORE MATERIAL.
5&3	W2	14	1 x (16 x 0.2mm) ECW (SEE NOTE 5)	SEE NOTE 6	SEE NOTE 6	1		
5&3	W3	14	1 x (16 x 0.2mm) ECW (SEE NOTE 5)	SEE NOTE 6	SEE NOTE 6	1	1	
1	W1b	16	0.55mm TRIPLE–INSUL	CONT. W1	HOLE 6	1		
2	W4	3.5	0.25mm TRIPLE–INSUL EFTF UL	PIN 3	PIN 4	1	1	
2	W5	3.5	0.25mm TRIPLE–INSUL EFTF UL	PIN 4	PIN 7			
3	W6	3	0.2mm ECW HEAVY	PIN 13	PIN 15	1		
5	W7	3	0.2mm ECW HEAVY	PIN 16	PIN 14	1	2	
4	W8	17	0.50mm TRIPLE–INSUL	HOLE 5	HOLE 1	2	1	1 TURN OF WHITE TAPE (ITEM 7) REQD. TO WIND ON BOBBIN ITEM 9.





SIZE	DWG.NO	REV
A	10015707	A
SCALE: NONE		SHT 2 OF 8

Diagrams - (14) CHD250PSXXYY - Transformer (T1)

REVISIONS

REVISIONS–SEE SHEET ONE

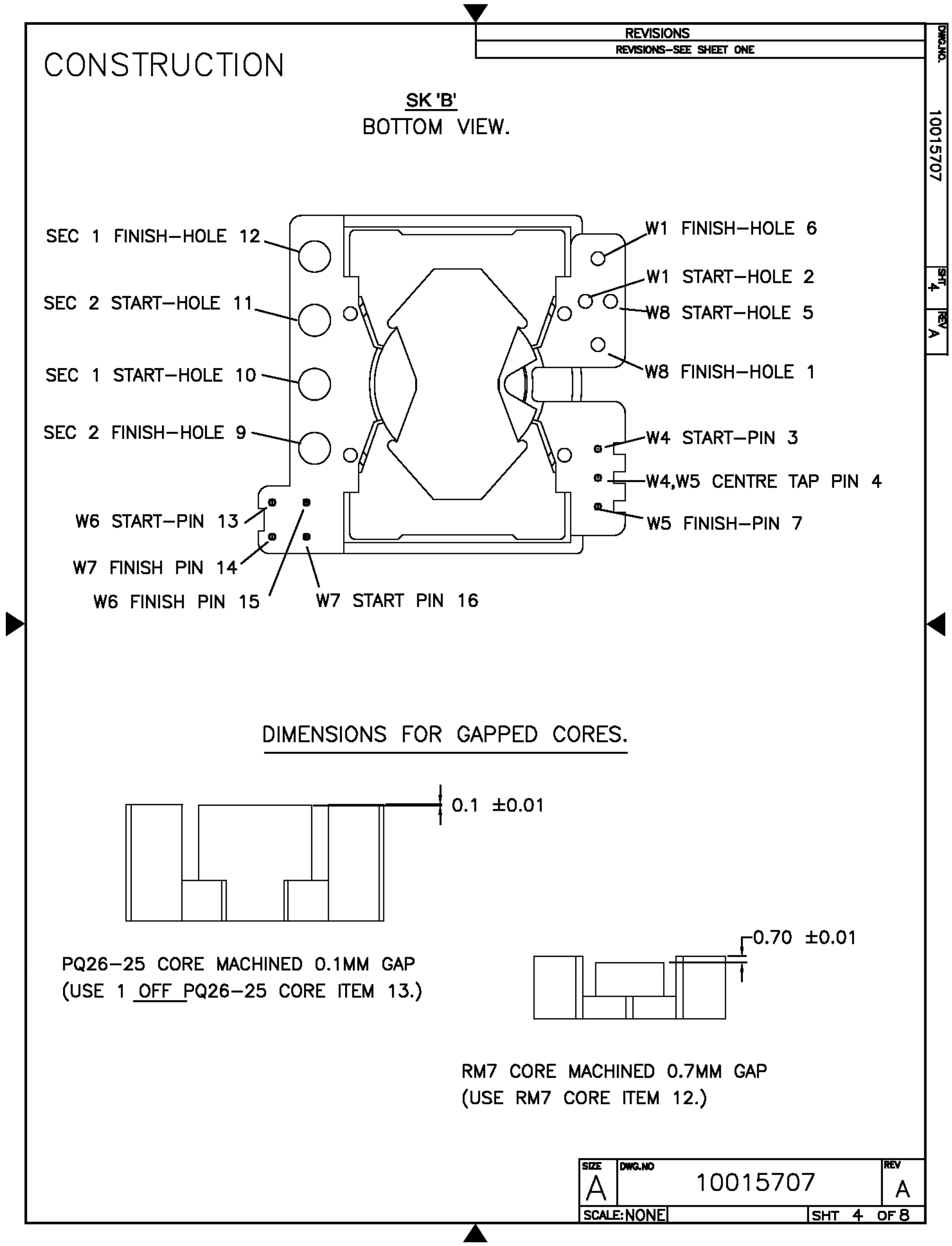
DWG.NO. 10015707 SHT 3 REV A

CONSTRUCTION NOTES

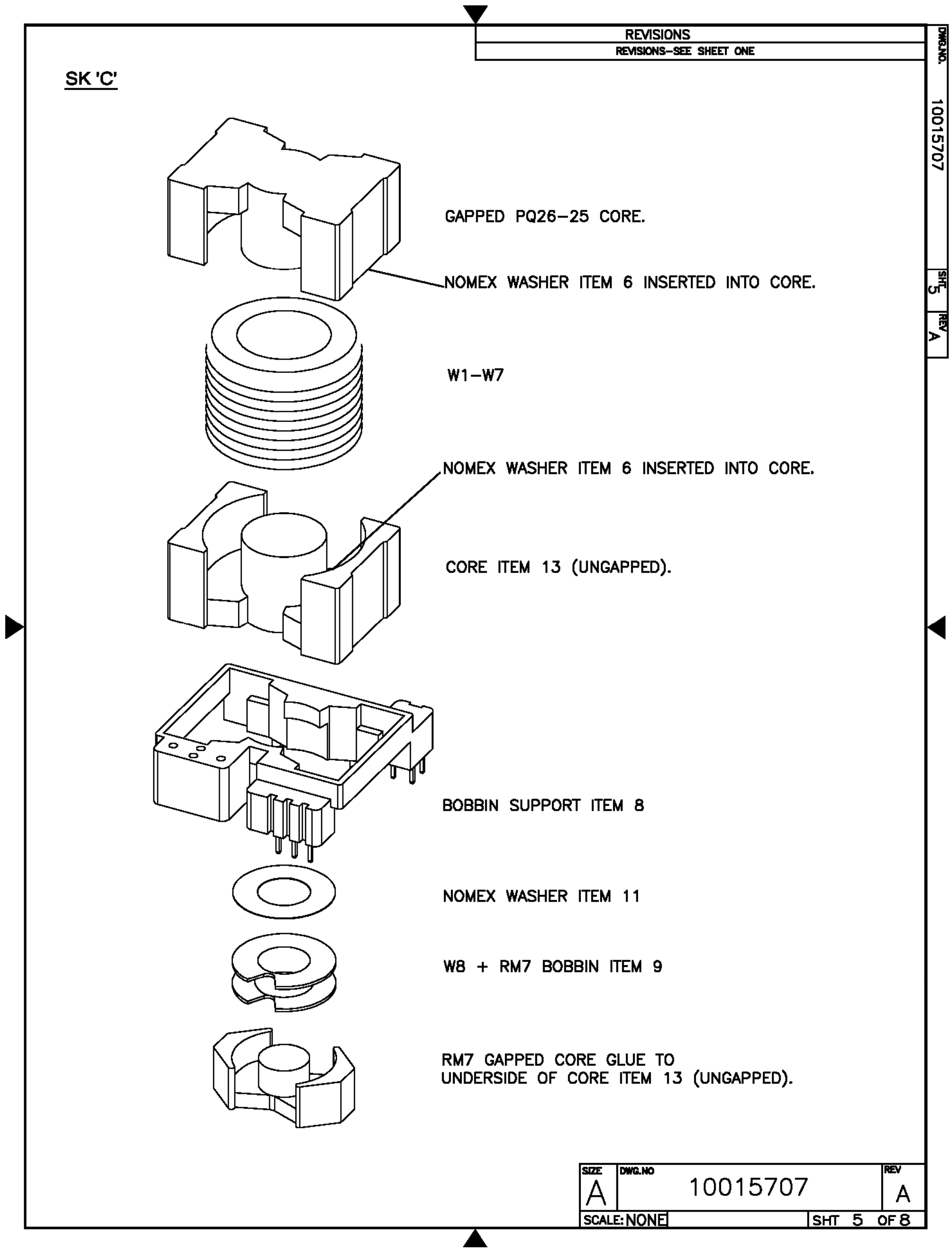
1. MATERIAL : SEE SEPARATE BILL OF MATERIALS : 10015707
2. No. OF TURNS TO BE EXACT. ALL WINDINGS TO BE WOUND IN SAME DIRECTION.
3. CLASS 155 (F) INSULATION SYSTEM.
4. EQUIVALENT TO MEET XP CLASS (F) INSULATION REQUIREMENTS WHERE APPLICABLE.
5. W2 WIRE IS MADE FROM 1 BUNCH OF THE FOLLOWING:
   TAKE 8 STRANDS OF RED 0.2mm ECW ITEM 5 AND 8 STRANDS OF BROWN 0.2mm ECW ITEM 3 AND TWIST TOGETHER @ 80 TURNS/MTR. KEEP COLOURS SEPARATE AT ENDS.
   W3 WIRE IS MADE THE SAME AS W2 ABOVE.
6. TO CREATE END TERMINATIONS AS SHOWN IN SK'E' & SK'F'.
   TAKE ALL RED WIRES FROM W2 & W3 START, TWIST TOGETHER TO FORM SECONDARY 1 START.
   TAKE ALL RED WIRES FROM W2 & W3 FINISH, TWIST TOGETHER TO FORM SECONDARY 1 FINISH.
   TAKE ALL BROWN WIRES FROM W2 & W3 START, TWIST TOGETHER TO FORM SECONDARY 2 START.
   TAKE ALL BROWN WIRES FROM W2 & W3 FINISH, TWIST TOGETHER TO FORM SECONDARY 2 FINISH.
7. W1 – W7 TO BE WOUND ON CUSTOM MANDREL BEFORE INSERTION INTO CORES, GAPPED PQ26–25 AND ITEM 13. APPLY MIN. 1 TURN OF NOMEX TAPE, ITEM 10, TO MANDREL BEFORE WINDING, TO INSULATE WINDINGS FROM CORE MATERIAL. SEE SK'A'.
8. AFTER FITTING 1 OFF NOMEX WASHER, ITEM 6, INTO EACH CORE HALF, GLUE CORES, GAPPED PQ26–25 AND ITEM 13, WITH ARALDITE 2012 OR EQUIVALENT. (SEE NOTE 4.)
9. ASSEMBLE BOBBIN SUPPORT, ITEM 8, AROUND ASSEMBLED CORES, GAPPED PQ26–25 AND ITEM 13. SEE SK'C'.
10. INSERT W8, WOUND BOBBIN, ITEM 9, INTO RM7 GAPPED CORE. PLACE WASHER, ITEM 11, BETWEEN RM7 & PQ25/26 CORE, AS SHOWN. THEN GLUE RM7 CORE AND WINDING TO UNDERSIDE OF CORE, ITEM 13. SEE SK'C'.
11. W8 WIRES TO BE RUN AS SHOWN IN SK'D'. APPLY GLUE WHERE NECESSARY TO SECURE WIRE.
12. LEADS TO BE STRIPPED, TINNED AND TRIMMED TO 4.1mm ± 1mm IN LENGTH. MEASURED FROM LOWEST POINT OF MOULDING.
13. GLUE CORES/ASSEMBLY SECURELY TO BOBBIN SUPPORT, ENSURING THEY ARE MOUNTED SQUARELY.
14. VACUUM IMPREGNATE WITH VARNISH. CLEAN VARNISH OFF LEADS.
15. FINISHED PART TO BE INDELIBLY MARKED WITH "10015707", REV. NO. AND BATCH/DATE CODE.

SIZE	DWG.NO	REV
A	10015707	A
SCALE: NONE	SHT 3 OF 8	

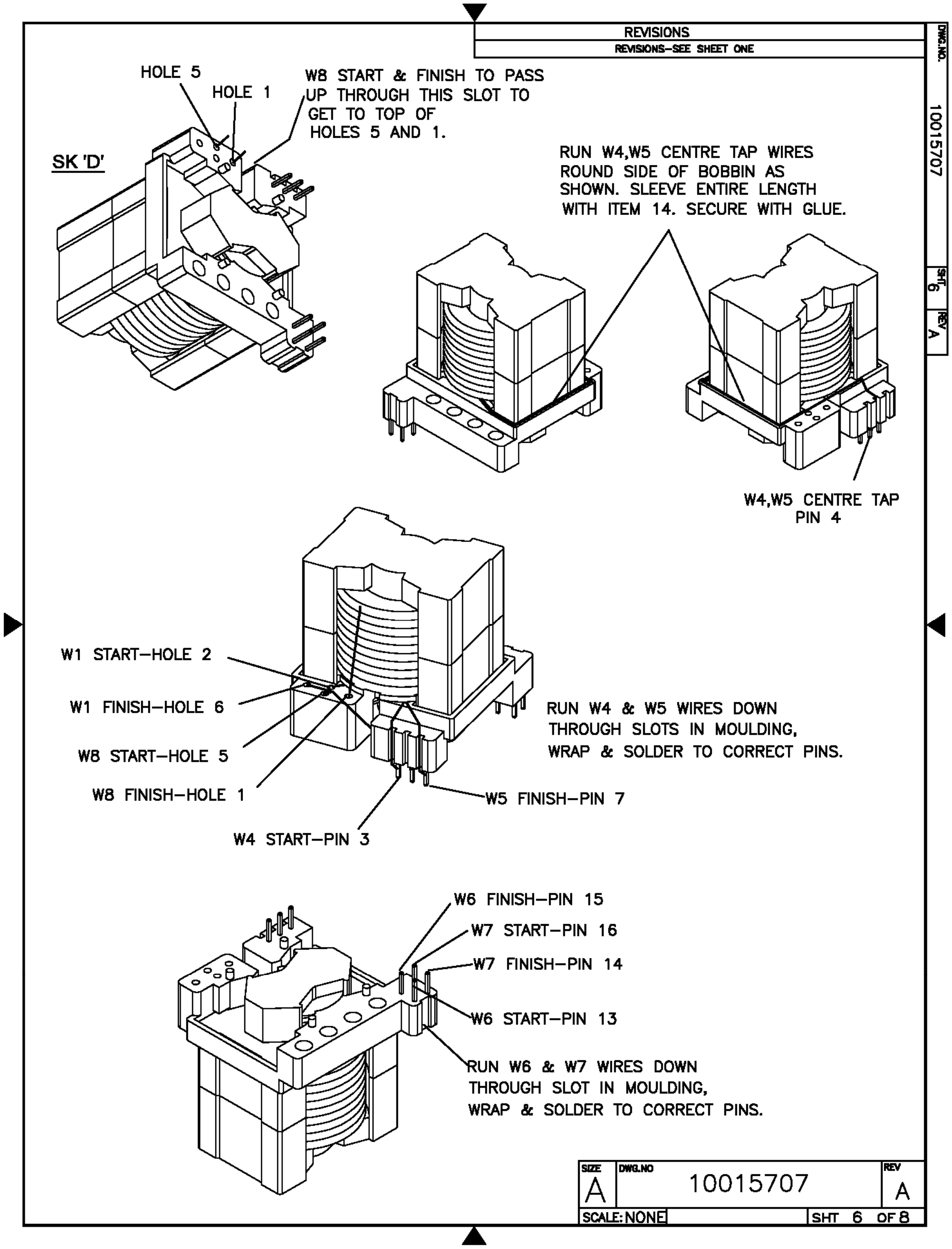
Diagrams - (14) CHD250PSXXYY - Transformer (T1)



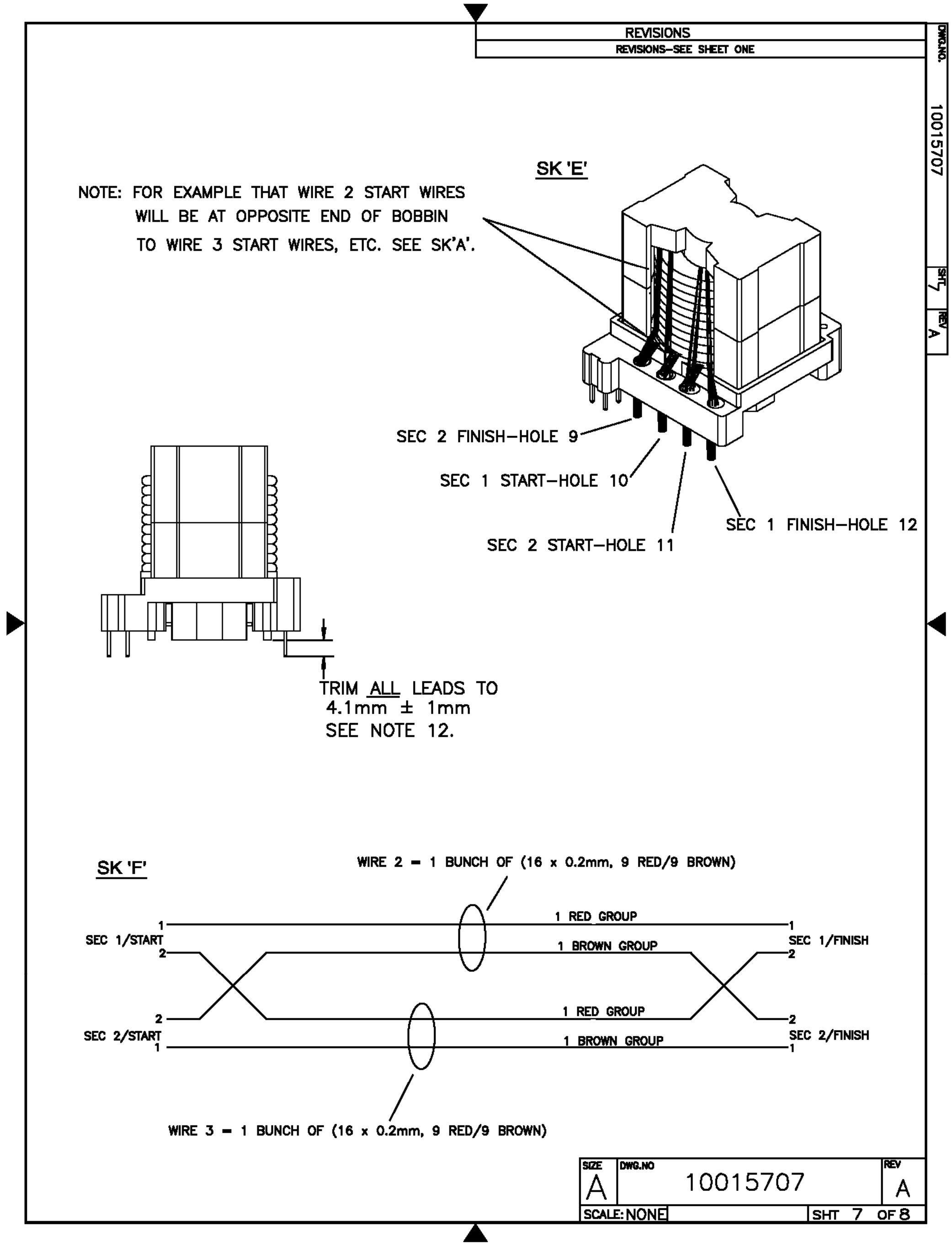
Diagrams - (14) CHD250PSXXYY - Transformer (T1)



Diagrams - (14) CHD250PSXXYY - Transformer (T1)



Diagrams - (14) CHD250PSXXYY - Transformer (T1)



Diagrams - (14) CHD250PSXXYY - Transformer (T1)

REVISIONS
REVISIONS–SEE SHEET ONE

DWG.NO. 10015707 SHT 8 REV A

TEST SPECIFICATION

(THIS SHOULD BE PERFORMED ONCE ON FINISHED ASSEMBLY)

INDUCTANCE:– PINS 2 TO 6 4.1mH ±15% @ 10KHz 100mV
PINS 5 TO 1 28uH ±10% @ 10KHz 100mV

LEAKAGE INDUCTANCE:– 8.2uH ±10% @ 10KHz 100mV MEASURE W1 WITH SEC 1, SEC 2 SHORT CIRCUIT.

FLASH TEST:– W1,W4,W5,W8 TOSEC 1,SEC 2,W6,W7 4400VAC FOR 10 SECS NO BREAKDOWN

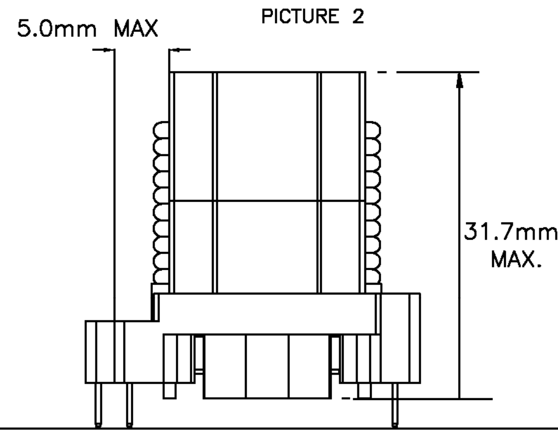
DC RESISTANCE:– W1 277mOhms MAX.
SEC 1 31mOhms MAX.
SEC 2 31mOhms MAX.

INSPECTION LIST

1. TEST LIMITS.
2. ENSURE WINDINGS ARE NEAT AND TIDY WHERE THEY EXIT. SEE PICTURE 1 BELOW.
3. ENSURE SEC. 1 AND SEC. 2 WINDINGS ARE KEPT WITHIN BASE PROFILE. THEY SHOULD NOT EXTEND BEYOND 5.0mm MAX. FROM EDGE OF CORE. SEE PICTURE 2 BELOW.
4. ENSURE TX DOES NOT EXCEED MAX HEIGHT DIMENSION SHOWN BELOW (31.7mm).

PICTURE 1

PICTURE 2



SIZE	DWG.NO	REV
A	10015707	A
SCALE: NONE		SHT 8 OF 8

Diagrams - (15) Stand-by Output Transformer (T1) - For models with suffix "A"

Diagrams - (15) Stand-by Output Transformer (T1) - For models with suffix "A"

REVISIONS

REV	ECO	DESCRIPTION	CHECK	DATE	ENGR	DATE
01	.	IST PROTOTYPE			SJT	29MAY13
A		PRODUCTION RELEASE	CFW	23SEP13	RL	23SEP13

DWG.NO. 10015566 SHT 1 REV A

TOLS UNLESS STATED
NO DEC PLACE ±0.5
1 DEC PLACE ±0.1
2 DEC PLACE ±0.05
HOLES +0.05 −0

NOTES: SEE SHEET 3.

THIRD ANGLE PROJ.

PLOTTED 23-09-2013

NEXT ASSY	USED ON
.	.
.	.
.	.
.	.
.	.
.	.
.	CCB200 STANDBY

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TOLERANCE		
XX	XXX	ANGLE
	SEE NOTE	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM

CONTRACT NO. .

APPROVALS	DATE
DRAWN SJT	28MAY13
CHECKED CFW	23SEP13
ENGINEER RL	23SEP13
CUST. APPV'L .	.

CAD DWG NO 10015566A0.DWG

XP Power Limited.
FYFIELD ROAD, ONGAR, ESSEX, CM5 0GN

TITLE
TRANSFORMER ASSY,
STANDBY PCB
CCB200

SIZE	DWG.NO	REV
A	10015566	A

SCALE NONE SHT 1 OF 4

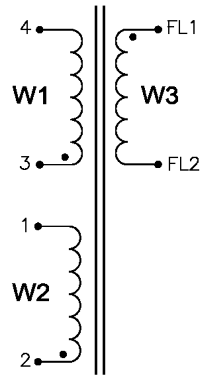
Diagrams - (15) Stand-by Output Transformer (T1) - For models with suffix "A"

REVISIONS

REVISIONS—SEE SHEET ONE

DWG.NO. 10015566 SHT 2 REV A

SCHEMATIC DIAGRAM



WINDING TABLE

ITEM	WINDING	TURNS	WIRE	START	FINISH	LAYERS	TAPE ITEM 6 (OR SEE NOTE 9)	COMMENTS
4 (OR SEE NOTE 9)	W1	105T	0.2mm ECW HEAVY	3	4	3	1	
4 (OR SEE NOTE 9)	W2	18T	2 x 0.2mm ECW HEAVY	2	1	1	1	WIND BIFILAR. SEE NOTE 10
5 (OR SEE NOTE 9)	W3	7T	0.65mm TRIPLE INS.	FL1	FL2	1	2 LAYERS	

SIZE	DWG.NO	REV
A	10015566	A
SCALE: NONE	SHT 2 OF 4	

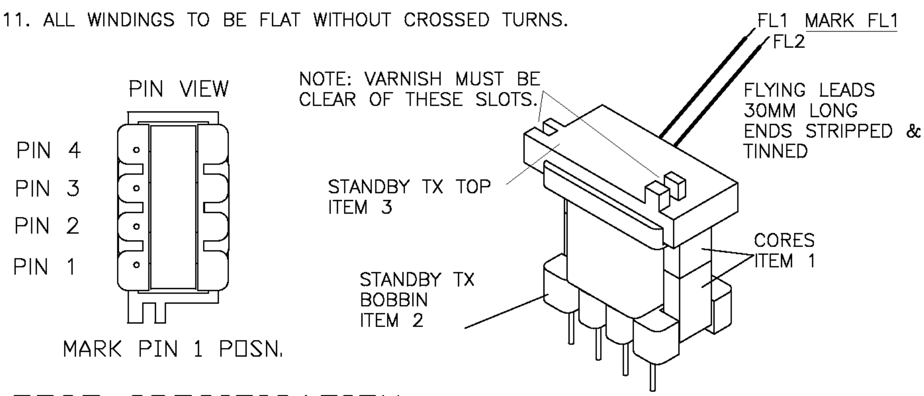
Diagrams - (15) Stand-by Output Transformer (T1) - For models with suffix "A"

REVISIONS
REVISIONS–SEE SHEET ONE

DWG.NO. 10015566 SHT 3 REV A

CONSTRUCTION NOTES :-

1. MATERIAL : SEE SEPARATE BILL OF MATERIALS : 10015566.
2. No. OF TURNS TO BE EXACT.
3. ALL WINDINGS TO BE WOUND IN SAME DIRECTION.
4. GLUE 0.3mm GAPPED CORE ITEM 1 & UN–GAPPED CORE ITEM 1 (OR SEE NOTE 9), USING ARALDITE 2012 OR EQUIVALENT. APPLY 2 TURNS OF TAPE ITEM 6 (OR SEE NOTE 9) AROUND ASSEMBLED CORES.
5. TOP, ITEM 3, TO BE GLUED IN POSITION AS SHOWN, USING ARALDITE 2012 OR EQUIVALENT.
6. VACUUM IMPREGNATE WITH VARNISH. CLEAN VARNISH OFF LEADS AND SLOTS.
7. FINISHED PART TO BE INDELIBLY MARKED WITH " 10015566 ", REVISION NUMBER AND BATCH / DATE CODE. ALTERNATIVELY BAG & TAG CAN BE USED. ALSO INDELIBLY MARK POSITION OF PIN 1.
8. CLASS 155 (F) INSULATION SYSTEM.
9. EQUIVALENT TO MEET XP CLASS 155 (F) INSULATION REQUIREMENTS WHERE APPLICABLE.
10. W2 & W3 TO BE SPREAD EVENLY ACROSS FULL WIDTH.
11. ALL WINDINGS TO BE FLAT WITHOUT CROSSED TURNS.



TEST SPECIFICATION

INDUCTANCE:– PINS 3 TO 4 1.0 – 1.2mH @ 10KHz 0.1V

LEAKAGE INDUCTANCE:– FL1 – FL2 SHORT CIRCUIT
MEASURE PINS 3–4 < 60uH @ 10KHz 0.1V

PINS 1 – 2 SHORT CIRCUIT
MEASURE PINS 3–4 < 25uH @ 10KHz 0.1V

FLASH TEST:– W1 & W2 TO W3 4KVac 1 MIN. NO BREAKDOWN.

SIZE	DWG.NO	REV
A	10015566	A
SCALE: NONE	SHT 3 OF 4	

Diagrams - (15) Stand-by Output Transformer (T1) - For models with suffix "A"

REVISIONS

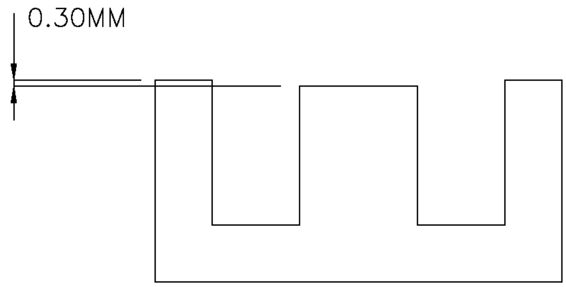
REVISIONS—SEE SHEET ONE

DWG.NO. 10015566 SHT 4 REV A

INSPECTION LIST.

1. SOLDER JOINTS.
2. TEST SPECIFICATIONS.
3. CHECK PHASING AND TURNS RATIO.

CORE GAPPING (1 CORE ONLY)



MACHINE 1 CORE, ITEM 1 (OR SEE NOTE 9), AS SHOWN. CENTRE LEG ONLY.

FINISH SHOULD BE CLEAN, FREE FROM BURRS, SHARP EDGES AND DUST.

SIZE	DWG.NO	REV
A	10015566	A
SCALE: NONE	SHT 4 OF 4	

Diagrams - (16) Stand-by Output Inductor (L1) - For models with suffix "A"

Diagrams - (16) Stand-by Output Inductor (L1) - For models with suffix "A"

REVISIONS

REV	ECO	DESCRIPTION	CHECK	DATE	ENGR	DATE
01	.	IST PROTOTYPE			MJB	06June13
A		PRODUCTION RELEASE	CFW	23SEP13	RL	23SEP13
B	C4147	INDUCTANCE TOL WAS +/-20% NOW +35% -20% REQUESTED BY FACTORY	CFW	10Jan14	MJB	10Jan14

DWG.NO. 10015586 SHT 1 REV B

TOLS UNLESS STATED
NO DEC PLACE ±0.5
1 DEC PLACE ±0.1
2 DEC PLACE ±0.05
HOLES +0.05 -0

NOTES: SEE SHEET 3.

THIRD ANGLE PROJ.

PLOTTED 23-09-2013

NEXT ASSY	USED ON
.	.
.	.
.	.
.	.
.	.
.	.
.	CCB200 STANDBY

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TOLERANCE		
XX	XXX	ANGLE
	SEE NOTE	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM

CONTRACT NO. .

APPROVALS		DATE
DRAWN	MJB	06June13
CHECKED	CFW	23SEP13
ENGINEER	RL	23SEP13
CUST. APPV'L		

CAD DWG NO 10015586B0.DWG

XP Power Limited.
FYFIELD ROAD, ONGAR, ESSEX, CM5 0GN

TITLE
INDUCTOR ASSY,
OUTPUT ROD CORE
CCB200 STANDBY BOARD

SIZE	DWG.NO	REV
A	10015586	B

SCALE NONE SHT 1 OF 4

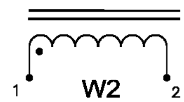
Diagrams - (16) Stand-by Output Inductor (L1) - For models with suffix "A"

REVISIONS

REVISIONS—SEE SHEET ONE

DWG.NO. 10015586 SHT 2 REV B

SCHEMATIC DIAGRAM



WINDING TABLE

ITEM	WINDING	TURNS	WIRE	START	FINISH	LAYERS	TAPE (OR SEE NOTE 9)	COMMENTS
2 (OR SEE NOTE 9)	W1	15T	0.5mm ECW HEAVY	1	2	1		

SIZE	DWG.NO	REV
A	10015586	B
SCALE: NONE		SHT 2 OF 4

Diagrams - (16) Stand-by Output Inductor (L1) - For models with suffix "A"

REVISIONS

REVISIONS—SEE SHEET ONE

DWG.NO. 10015586 SHT 3 REV B

CONSTRUCTION NOTES :-

1. MATERIAL : SEE SEPARATE BILL OF MATERIALS.
2. No. OF TURNS TO BE EXACT.
3. ALL WINDINGS TO BE WOUND IN SAME DIRECTION.
4. START WINDING FROM ONE END OF ROD CORE.
5. ENSURE LEADOUTS ARE POSITIONED AS SHOWN . STRIP/TIN AND TRIM TO 4mm AS SHOWN.
6. VACUUM IMPREGNATE WITH VARNISH. CLEAN VARNISH OFF LEADS.
7. FINISHED PART TO BE INDELIBLY MARKED WITH " DWG.No ", REVISION NUMBER AND BATCH / DATE CODE. ALTERNATIVELY BAG & TAG CAN BE USED.
8. CLASS 155 (F) INSULATION SYSTEM.
9. EQUIVALENT TO MEET XP CLASS 155 (F) INSULATION REQUIREMENTS WHERE APPLICABLE.

TEST SPECIFICATION

INDUCTANCE:— PINS 1 TO 2 3uH +35% / −20% @ 10KHz 0.1V

LEAKAGE INDUCTANCE:

FLASH TEST:—

SIZE	DWG.NO	REV
A	10015586	B
SCALE: NONE	SHT 3 OF 4	

Diagrams - (16) Stand-by Output Inductor (L1) - For models with suffix "A"

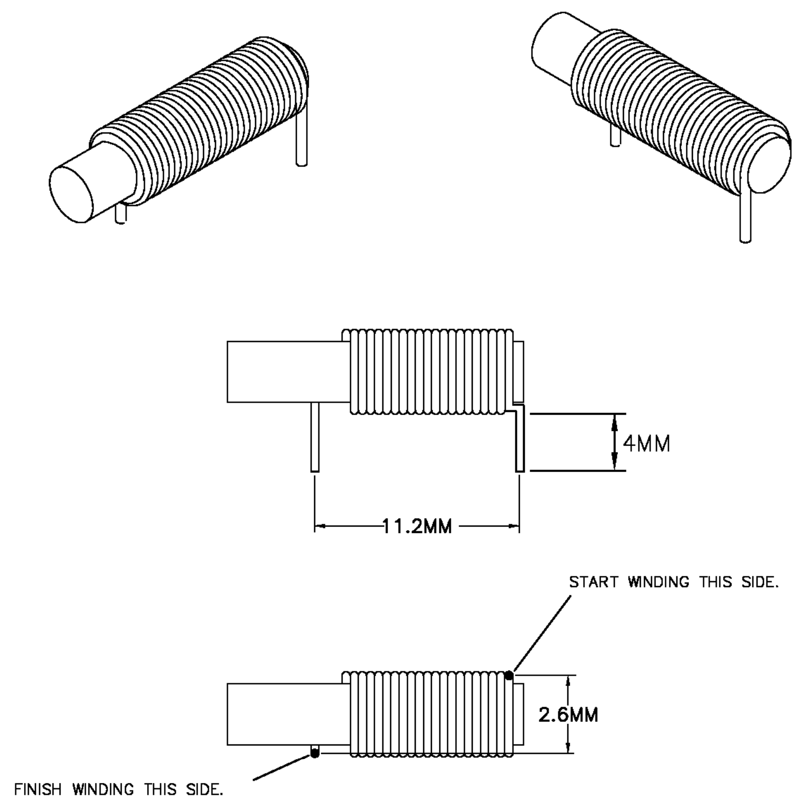
REVISIONS

REVISIONS–SEE SHEET ONE

DWG.NO. 10015586 SHT 4 REV B

INSPECTION LIST.

1. CENTRES BETWEEN LEGS..
2. TEST SPECIFICATIONS.



CENTRES BETWEEN LEADOUTS
VIEWED FROM UNDERNEATH.

SIZE	DWG.NO	REV
A	10015586	B
SCALE: NONE	SHT 4 OF 4	

Licenses - (01) Optocoupler - Lite On, Type LTV-816 Series

Licenses - (01) Optocoupler - Lite On, Type LTV-816 Series

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Unlawful use

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DetailCertifiedProductsWebPart

Approval no.:	40015248
Product:	Optocoupler
Productgroup:	Optocouplers
Company:	Lite-On Technology Corporation 90 Chien I Road 235 CHUNGHO CITY, TAIPEI HSIEN TAIWAN
Mark:	VDE Mark
Type:	LTV-4N25
Technical data:	
Type:	LTV-702V
Technical data:	
Type:	LTV-713F
Technical data:	
Type:	LTV-713V
Technical data:	
Type:	LTV-703F
Technical data:	
Type:	LTV-703V
Technical data:	
Type:	LTV-814
Technical data:	
Type:	LTV-8141
Technical data:	
Type:	LTV-814H
Technical data:	
Type:	LTV-815
Technical data:	
Type:	LTV-816
Technical data:	
Type:	LTV-4N26
Technical data:	
Type:	LTV-817
Technical data:	
Type:	LTV-819-1
Technical data:	
Type:	LTV-819-2

Licenses - (01) Optocoupler - Lite On, Type LTV-816 Series

Technical data:	
Type:	LTV-821
Technical data:	
Type:	LTV-824
Technical data:	
Type:	LTV-8241
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Type:	LTV-824H
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Technical data:	
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Technical data:	
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Technical data:	
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Technical data:	
Type:	LTV-8Q52
Technical data:	
Type:	LTV-845
Technical data:	
Type:	LTV-846
Technical data:	
Type:	LTV-847
Technical data:	
Type:	LTV-4N28
Technical data:	
Type:	LTV-849
Technical data:	
Type:	LTV-851
Technical data:	
Type:	LTV-715F
Technical data:	
Type:	LTV-724F
Technical data:	

Licenses - (01) Optocoupler - Lite On, Type LTV-816 Series

Type:	LTV-725F
Technical data:	
Type:	LTV-725V
Technical data:	
Type:	LTV-733
Technical data:	
Type:	LTV-733H
Technical data:	
Type:	CNY17-1
Technical data:	
Type:	CNY17-2
Technical data:	
Type:	LTV-4N32
Technical data:	
Type:	CNY17-3
Technical data:	
Type:	CNY17-4
Technical data:	
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Technical data:	
Type:	MOC3021
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Type:	MOC3022
Technical data:	
Type:	MOC3023

Licenses - (01) Optocoupler - Lite On, Type LTV-816 Series

Technical data:	
Type:	LTV-932
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Type:	MOC3041
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Type:	MOC3083
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Type:	LTV-4N37
Technical data:	
Type:	LTV-702F
Technical data:	

Licenses - (02) Optocoupler - Renesas (NEC), Type PS2561 Series

Licenses - (02) Optocoupler - Renesas (NEC), Type PS2561 Series

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DetailCertifiedProductsWebPart

Approval no.:	40008862
Product:	Optocoupler
Productgroup:	Optocouplers RENESAS
Company:	NEC Electronics Corporation Compound Semiconductor Devices Division 1753 Shimonumabe Nakahara-ku, Kawasaki-shi, Kanagawa 211-8668 JAPAN
Mark:	VDE Mark
Type:	PS2561AL1-1
Technical data:	
Type:	PS2532-(1;2;4)
Technical data:	
Type:	PS2561L-(1;2;4)
Technical data:	
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Technical data:	
Type:	PS2565L-(1;2;4)
Technical data:	
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Type:	PS2562L1-(1;2;4)
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Type:	PS2565L1-(1;2;4)
Technical data:	
Type:	PS2533-(1;2;4)
Technical data:	
Type:	PS2566L1-(1;2;4)
Technical data:	
Type:	PS2571L1-(1;4)
Technical data:	

Licenses - (02) Optocoupler - Renesas (NEC), Type PS2561 Series

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Type:	PS2561BL-1
Technical data:	

Licenses - (02) Optocoupler - Renesas (NEC), Type PS2561 Series

Type:	PS2561BL1-1
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Technical data:	

Licenses - (03) Optocoupler - Vishay, Type SFH6156 series

Licenses - (03) Optocoupler - Vishay, Type SFH6156 series

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www.vishay.com

Vishay Semiconductors

Optocoupler

VDE Prüf- und Zertifizierungsinstitut

ZEICHENGENEHMIGUNG
MARKS APPROVAL

VISHAY Semiconductor GmbH
Theresienstraße 2
74072 Heilbronn

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is authorized to use for their product

Optokoppler
Optocoupler

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Tested and certified according to

DIN EN 60747-5-5 (VDE 0884-5):2011-11; EN 60747-5-5:2011

Aktenzeichen: 422610-4880-0048 / 165525
File ref.:

VDE Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute
Zertifizierungsstelle / *Certification*

Ausweis-Nr. 91888 Blatt 1
Certificate No. *Page*

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For technical questions, contact: optocoupleranswers@vishay.com

Licenses - (03) Optocoupler - Vishay, Type SFH6156 series

VISHAY.
www.vishay.com

VDE Certificate 91888

Vishay Semiconductors

VDE Prüf- und Zertifizierungsinstitut
Zeichengenehmigung

Ausweis-Nr. / Certificate No. 91888 — Blatt / page 2

Name und Sitz des Genehmigungs-Inhabers / *Name and registered seat of the Certificate holder*
VISHAY Semiconductor GmbH; Theresienstraße 2, 74072 Heilbronn

Aktenzeichen / *File ref.*	letzte Änderung / *updated*	Datum / *Date*
422610-4880-0048 / 165525 / FG34 / SCT	2012-03-26	1996-04-15

Dieses Blatt gilt nur in Verbindung mit Blatt 1 des Zeichengenehmigungsausweises Nr. 91888
This supplement is only valid in conjunction with page 1 of the Certificate No. 91888.

Optokoppler
Optocoupler

Typ(en) / *Type(s)*:

1] SFH 6106-..-X001 / -X01(6;7;8;9)
2] SFH 6116-..-X001 / -X01(6;7;8;9)
3] SFH 6156-..-X001 / -X01(6;7;8;9)
4] SFH 6186-..-X001 / -X01(6;7;8;9)
5] SFH 610A-..-X001 / -X01(6;7;8;9)
6] SFH 611A-..-X001 / -X01(6;7;8;9)
7] SFH 615A-..-X001 / -X01(6;7;8;9)
8] SFH 617A-..-X001 / -X01(6;7;8;9)
9] SFH 618A-..-X001 / -X01(6;7;8;9)
10] SFH 610A-..E.. -X001 / -X01(6;7;8;9)
11] SFH 615AA-X001 / -X01(6;7;8;9)
12] SFH 615AGB-X001 / -X01(6;7;8;9)
13] SFH 615AGR-X001 / -X01(6;7;8;9)
14] SFH 612A-X001 / -X01(6;7;8;9)
15] SFH 619A-X001 / -X01(6;7;8;9)
16] SFH 655A-X001 / -X01(6;7;8;9)
17] SFH 614A-X001 / -X01(6;7;8;9)
18] SFH 615ABM-X001 / -X01(6;7;8;9)
19] SFH 615ABL-X001 / -X01(6;7;8;9)
20] SFH 615AY-X001 / -X01(6;7;8;9)
21] SFH 615AB-X001 / -X01(6;7;8;9)
22] SFH 615BC-X001 / -X01(6;7;8;9)
23] SFH 6206-..-X001 / -X01(6;7;8;9)
24] SFH 6286-..-X001 / -X01(6;7;8;9)
25] SFH 620A-..-X001 / -X01(6;7;8;9)
26] SFH 628A-..-X001 / -X01(6;7;8;9)
27] SFH 620AA-X001 / -X01(6;7;8;9)
28] SFH 620AGB-X001 / -X01(6;7;8;9)
29] ILD 1-X001 / -X01(6;7;8;9)
30] ILD 2-X001 / -X01(6;7;8;9)
31] ILD 3-X001 / -X01(6;7;8;9)
32] ILD 5-X001 / -X01(6;7;8;9)
33] ILD 74-X001 / -X01(6;7;8;9)
34] ILD 610-..-X001 / -X01(6;7;8;9)
35] ILD 615-..-X001 / -X01(6;7;8;9)
36] ILD 621-..-X001 / -X01(6;7;8;9)

Fortsetzung siehe Blatt 3 /
continued on page 3

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Telefax + 49 (0) 69 83 06-555

Licenses - (03) Optocoupler - Vishay, Type SFH6156 series

VISHAY. www.vishay.com

VDE Certificate 91888

Vishay Semiconductors

VDE Prüf- und Zertifizierungsinstitut
Zeichengenehmigung

Ausweis-Nr. / Certificate No. 91888 Blatt / page 3

Name und Sitz des Genehmigungs-Inhabers / *Name and registered seat of the Certificate holder*
VISHAY Semiconductor GmbH, Theresienstraße 2, 74072 Heilbronn

Aktenzeichen / *File ref.* 422610-4880-0048 / 165525 / FG34 / SCT
letzte Änderung / *updated* 2012-03-26 Datum / *Date* 1996-04-15

Dieses Blatt gilt nur in Verbindung mit Blatt 1 des Zeichengenehmigungsausweises Nr. 91888
This supplement is only valid in conjunction with page 1 of the Certificate No. 91888.

Typ(en) / Type(s)

37] ILD 621GB-X001 / -X01(6;7;8;9)
38] ILCT 6-X001 / -X01(6;7;8;9)
39] MCT 6-X001 / -X01(6;7;8;9)
40] ILD 616-X001 / -X01(6;7;8;9)
41] ILD 30-X001 / -X01(6;7;8;9)
42] ILD 31-X001 / -X01(6;7;8;9)
43] ILD 32-X001 / -X01(6;7;8;9)
44] ILD 55-X001 / -X01(6;7;8;9)
45] ILD 66-..-X001 / -X01(6;7;8;9)
46] ILD 250-X001 / -X01(6;7;8;9)
47] ILD 251-X001 / -X01(6;7;8;9)
48] ILD 252-X001 / -X01(6;7;8;9)
49] ILD 255-X001 / -X01(6;7;8;9)
50] ILD 620-X001 / -X01(6;7;8;9)
51] ILD 620 GB-X001 / -X01(6;7;8;9)
52] ILD 755-..-X001 / -X01(6;7;8;9)
53] ILD 766-..-X001 / -X01(6;7;8;9)
54] ILQ 1-X001 / -X01(6;7;8;9)
55] ILQ 2-X001 / -X01(6;7;8;9)
56] ILQ 3-X001 / -X01(6;7;8;9)
57] ILQ 5-X001 / -X01(6;7;8;9)
58] ILQ 74-X001 / -X01(6;7;8;9)
59] ILQ 615-..-X001 / -X01(6;7;8;9)
60] ILQ 621-X001 / -X01(6;7;8;9)
61] ILQ 621 GB-X001 / -X01(6;7;8;9)
62] ILQ 30-X001 / -X01(6;7;8;9)
63] ILQ 31-X001 / -X01(6;7;8;9)
64] ILQ 32-X001 / -X01(6;7;8;9)
65] ILQ 55-X001 / -X01(6;7;8;9)
66] ILQ 66-..-X001 / -X01(6;7;8;9)
67] ILQ 620-X001 / -X01(6;7;8;9)
68] ILQ 620 GB-X001 / -X01(6;7;8;9)
69] SFH1617A-y-X001 / -X01(6;7;8;9)
70] ILD1615-y-X001 / -X01(6;7;8;9)
71] ILQ1615-y-X001 / -X01(6;7;8;9)

Fortsetzung siehe Blatt 4 /
continued on page 4

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For technical questions, contact: optocoupleranswers@vishay.com

Licenses - (03) Optocoupler - Vishay, Type SFH6156 series

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Zeichengenehmigung

Ausweis-Nr. / Certificate No. 91888
Blatt / page 4

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Aktenzeichen / *File ref.*
422610-4880-0048 / 165525 / FG34 / SCT

letzte Änderung / *updated* 2012-03-26
Datum / *Date* 1996-04-15

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This supplement is only valid in conjunction with page 1 of the Certificate No. 91888.

Typ(en) / Type(s)

72] TCED1100
73] TCED1100G
74] TCET1600
75] TCET1600G
76] TCET2200
77] TCET2200G
78] TCET2100
79] TCET2100G
80] TCET2600
81] TCET2600G
82] TCET4100
83] TCET4100G
84] TCET4600
85] TCET4600
86] SFH 6156-3078
87] VO615A-X015 / -X15(6;7;8;9)
88] VO617A-X015 / -X15(6;7;8;9)
89] VO618A-X015 / -X15(6;7;8;9)

Weitere Angaben — Anlage Nr.: 1_100A ; 1_200A
Further information — Appendix No.: 1_100A ; 1_200A

VDE Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute
Fachgebiet FG34
Section FG34

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VDE Certificate 91888

Vishay Semiconductors

VDE Prüf- und Zertifizierungsinstitut
Zeichengenehmigung

Ausweis-Nr. / Certificate No. 91888
Beiblatt / Supplement

Name und Sitz des Genehmigungs-Inhabers / *Name and registered seat of the Certificate holder*
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Aktenzeichen / *File ref.*
422610-4880-0048 / 165525 / FG34 / SCT

letzte Änderung / *updated* 2012-03-26
Datum / *Date* 1996-04-15

Dieses Beiblatt ist Bestandteil des Zeichengenehmigungsausweises Nr. 91888.
This supplement is part of the Certificate No. 91888.

Optokoppler
Optocoupler

Fertigungsstätte(n)
Place(s) of manufacture

Referenz/*Reference* **30009952**

Vishay Semiconductor Malaysia
Sdn. Bhd.
1710-1 Krubong Ind. Park
Mukim Krubong
75250 MELAKA, MELAKA
MALAYSIA

VDE Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute
Fachgebiet FG34
Section FG34

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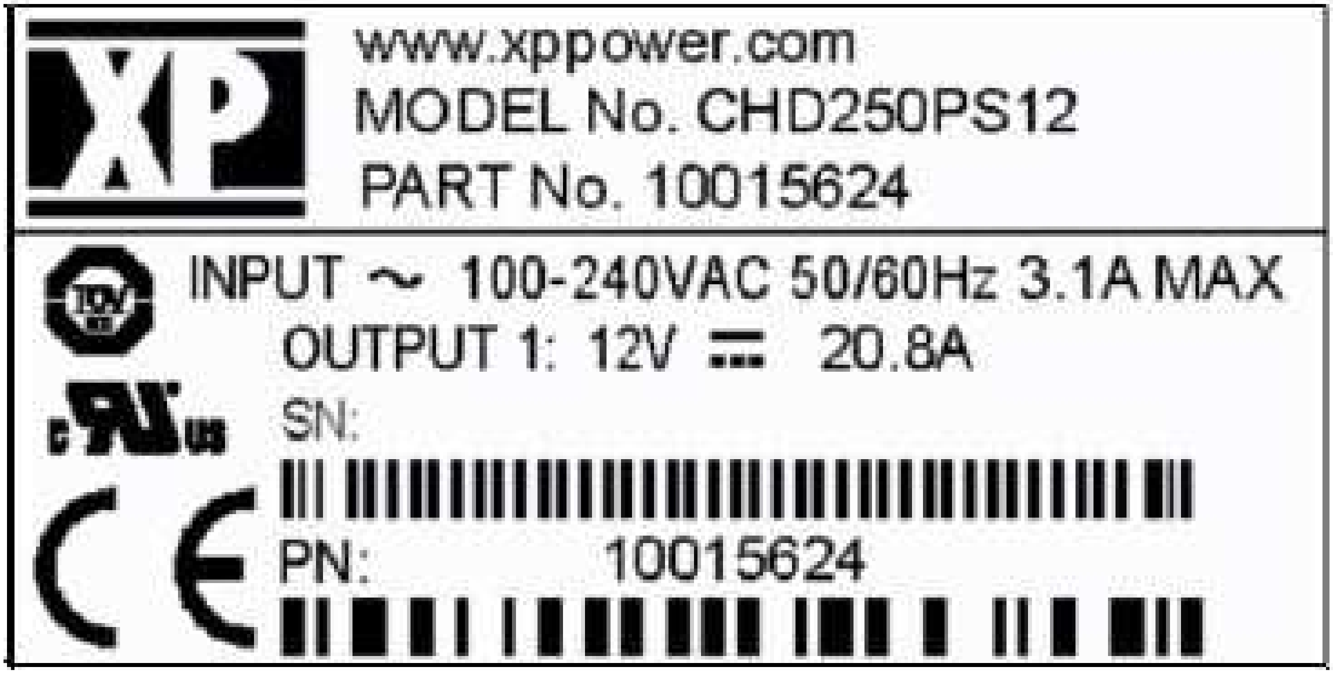
For technical questions, contact: optocoupleranswers@vishay.com

Marking Label - (01) Marking Plate

Marking Label - (01) Marking Plate



Marking Label - (02) Trade name

Marking Label - (02) Trade name

Miscellaneous - (01) Letter of Assurance

Miscellaneous - (01) Letter of Assurance

THE XPERTS IN POWER

XP Power, 1241 E. Dyer Road, Suite 150, Santa Ana, California 92705 USA
Tel: +1 714-597-7100 Fax: +1 714-597-7143 Website: www.xppower.com

August 21, 2012

Underwriters Laboratories LLC.
2929 E Imperial Hwy Suite 100
Brea, CA 92821

Attn: Mr. Linus Park

Email: linus.park@ul.com

Subject: National Differences

Dear Mr. Park,

This document confirms that XP Power Inc will provide the following items needed to the accepting National Certification Bodies (NCBs) along with the CB test report.

Markings and Safety Instructions – Safety instructions and markings in the language suitable for the countries listed in the attached reports will be provided at the same time the CB test report is submitted to the NCB.

EMC Test Report – Where detailed in the National Differences, an EMC test report or Declaration of Conformity will accompany this product when sent to countries that require EMC test results as part of their certification process.

RoHS - Restriction of the use of certain hazardous substances in electrical and electronic equipment. The substances to which the RoHS directive applies are: Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls, Polybrominates diphenyl ethers.

Power Supply Cords and Plugs – All power cords and plug assemblies provided with the unit will be certified and suitable for use in the countries listed in the attached CB test report.

Multiple Factories - This confirms that samples submitted for certification are representative of the products from each factory. The factories are as noted in this CB Test Report.

Tac Pham
Manager, Product Compliance
XP Power LLC

Miscellaneous - (02) Output Ratings

Miscellaneous - (02) Output Ratings

Model	Convectional Cooling		Convectional Cooling With 5V Standby		Convectional Cooling With Cover		Convectional Cooling With Cover and and 5V Standby	
	Max Output @50°C	Max Output @70°C	Max Output @50°C	Max Output @70°C	Max Output @50°C	Max Output @70°C	Max Output @50°C	Max Output @70°C
CHD250PS12	250W; 20.8A	200W; 16.67A	255W; 20.8A, 1A	127.3W; 10.4A, 0.5A	217W; 18.1A	108.5W; 9.04A	165W; 13.33A, 1A	82.5W; 6.67A, 0.5A
CHD250PS15	250W; 16.7A	200W; 13.33A	255W; 16.7; 1A	127.3W; 8.33A; 0.5A	217W; 14.5A	108.5W; 7.23A	165W; 10.7A; 1A	82.5W; 5.33A, 0.5A
CHD250PS18	250W; 13.9A	200W; 11.11A	255W; 13.9A; 1A	127.3W; 6.94A, 0.5A	217W; 12.1A	108.5W; 6.03A	165W; 8.89A; 1A	82.5W; 4.44A; 0.5A
CHD250PS24	250W; 10.4A	200W; 8.33A	255W; 10.4A, 1A	127.3W; 5.2A, 0.5A	217W; 9.04A	108.5W; 4.52A	165W; 6.67A, 1A	82.5W; 3.33A, 0.5A
CHD250PS28	250W; 8.93 A	200W; 7.14A	255W; 8.93A; 1A	127.3W; 4.46A, 0.5A	217W; 7.75A	108.5W; 3.88A	165W; 5.71A; 1A	82.5W; 2.86A; 0.5A
CHD250PS33	250W; 7.58A	200W; 6.1A	255W; 7.58A; 1A	127.3W; 3.79A, 0.5A	217W; 6.58A	108.5W; 3.29A	165W; 4.84A, 1A	82.5W; 2.42A, 0.5A
CHD250PS36	250W; 6.94A	200W; 5.56A	255W; 6.94A, 1A	127.3W; 3.47A; 0.5A	217W; 6.03A	108.5W; 3.01A	165W; 4.44A, 1A	82.5W; 2.22A, 0.5A
CHD250PS48	250W; 5.2A	200W; 4.17A	255W; 5.2A, 1A	127.3W; 2.6A; 0.5A	217W; 4.52A	108.5W; 2.26A	165W; 3.33A, 1A	82.5W; 1.67A, 0.5A

Miscellaneous - (03) Rationale for waiving the ball pressure test

Miscellaneous - (03) Rationale for waiving the ball pressure test

Clause 8.8.4.1 of ANSI/AAMI ES6060-1 (Use of UL Recognized Plastics instead of Ball Pressure Test)

Clauses 8.8.4.1 a) and 8.8.4.1b) requires external plastic enclosures and insulating materials which support uninsulated Mains Parts be subjected to the Ball Pressure Test to determine the softening point of thermoplastic materials.

Since the plastic material used are UL Recognized Plastic with the following Relative Thermal Indexes (RTI), the Ball Pressure Test was waived for the following plastics. See below for explanation of how RTIs are established for plastics.

Transformer bobbin –

Sumitomo Bakelite Co., Ltd"; Type: PM-9630; RTI: Electrical: 170°C, Mechanical with Impact: 150°C, Mechanical without Impact: 150°C. Flammability: V-0.

Sumitomo Chemical Co., Ltd"; Type: PM-9820; RTI: Electrical: 150°C, Mechanical with Impact: 150°C, Mechanical without Impact: 150°C. Flammability: V-0.

EI Duport DeNemours & Co., Inc., Type FR530 RTI: Electrical: 155°C, Mechanical with Impact: 155°C, Mechanical without Impact: 155°C. Flammability: V-0

The Relative Thermal Index of a material is an indication of the plastic's ability to retain its electrical and mechanical properties when exposed to elevated temperatures for an extended period of time. It is the maximum temperature below which a material maintains its characteristics over a period of time. There may be up to three independent RTIs assigned to a material: electrical; mechanical with impact; and mechanical without impact.

The RTI of a material is established on the basis of either accelerated aging experiments or on a generic basis from field experience with specific facilities of materials. UL 746B "Standard for Polymeric Materials -Long Term Property Evaluations " gives details on how these RTIs are established.

Miscellaneous - (03) Rationale for waiving the ball pressure test

Generic Indices: RTIs assigned to a material using the generic indices is based upon acceptable service experience with families of materials (e.g., ABS, polycarbonate, etc.). RTIs established on a generic basis are conservative temperatures limits.

Long-Term Thermal-Aging: The prime cause of polymeric material degrade with time is due to exposure to heat. Although it would be preferable to evaluate material performance by aging at normal operating temperature for a long time period, it is not very practical to do so. Instead, the desired information is obtained through an accelerated aging process in which the materials are aged at elevated temperatures. This involves measuring the pertinent properties of the material as functions of time and temperature, and using appropriate mathematical techniques to determine the time to “end of useful service” for each temperature. The “end of useful life” is defined as the time at which a material property has degraded to 50 percent of its original value. It is not expected that a 50% loss of property due to thermal degradation results in premature risk of electric shock, fire, or personal injury.

The long-term material performance is determined relative to that of a reference or control material, thus the term “relative temperature index” is used. For this method, samples of the new and control materials are placed in ovens which are kept at predetermined constant temperatures. Samples of both materials are taken from the ovens at various times and tested to determine mechanical and electrical properties. The data permits determination of the time at which the property values for each material fall to 50 percent of the original values.

The primary properties that are monitored to determine when they have fallen to 50% of its original values are as followed for each of the RTIs.

Mechanical RTI:
Thermoplastics use Tensile Strength test per UL 746A
Thermosets use Flexural test per UL 746A

Miscellaneous - (03) Rationale for waiving the ball pressure test

Mechanical with Impact RTI:
Thermoplastics use Tensile Strength test per UL 746A
Thermosets use Izod test per UL 746A

Electrical RTI:
Thermoplastics use Dielectric test per UL 746A
Thermosets use Dielectric test per UL 746A

The Tensile Strength and Flexural Strength of a plastic material are measures of the material's ability to withstand stresses without breakage or rupture.

The Tensile and Izod Impact Tests determine the relative ability of a material to resist impact in its molded form. A single blow is used to determine energy required to rupture the sample.

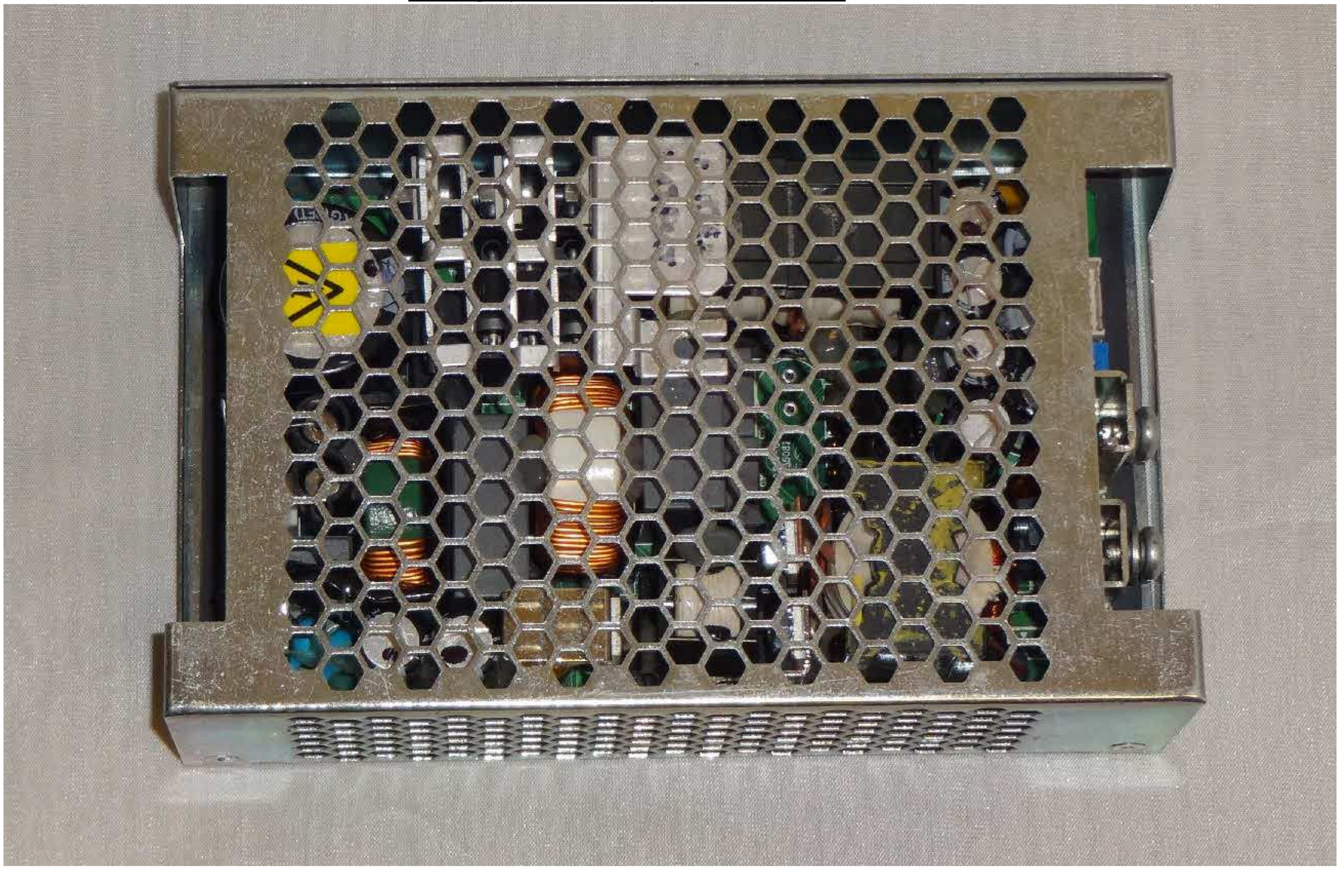
The Dielectric-Strength Test determines the materials ability to resist electrical breakdown under high-voltage conditions at normal operating frequencies.

Since the plastic materials have gone through the above mentioned long-term aging test which take 9 to 18 months to complete under UL's Plastic Recognition Program, we have determined that it provides an equivalent degree of safety to that prescribed by the Ball Pressure Test.

Rationale: This clarification reduces the volume of testing required when the enclosure or mains-supporting subcomponent has already been evaluated for resistance to heat.

Photographs - (01) Top View with Cover

Photographs - (01) Top View with Cover



Photographs - (02) Input Side View with Cover

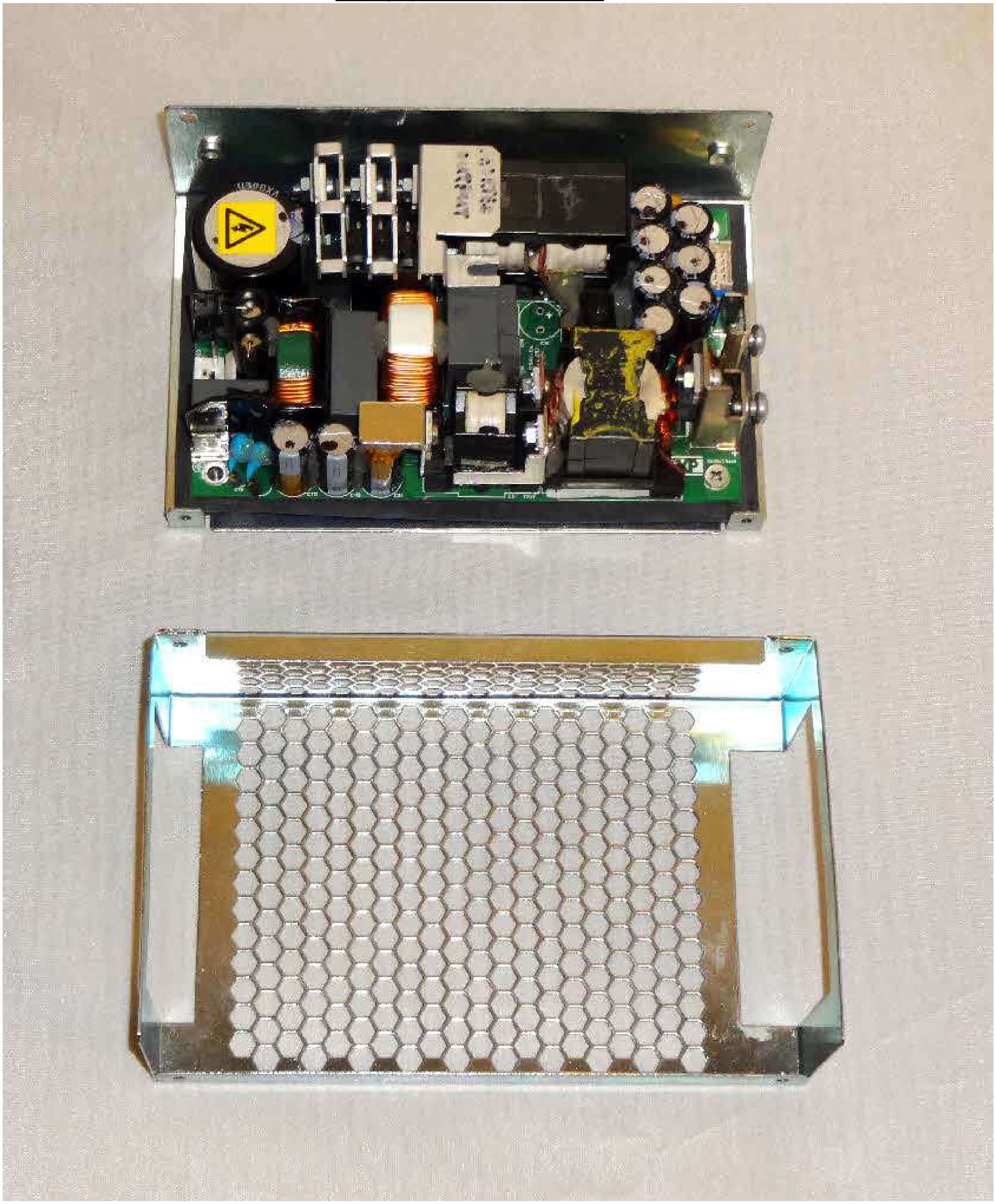
Photographs - (02) Input Side View with Cover

Photographs - (03) Output Side View with Cover

Photographs - (03) Output Side View with Cover

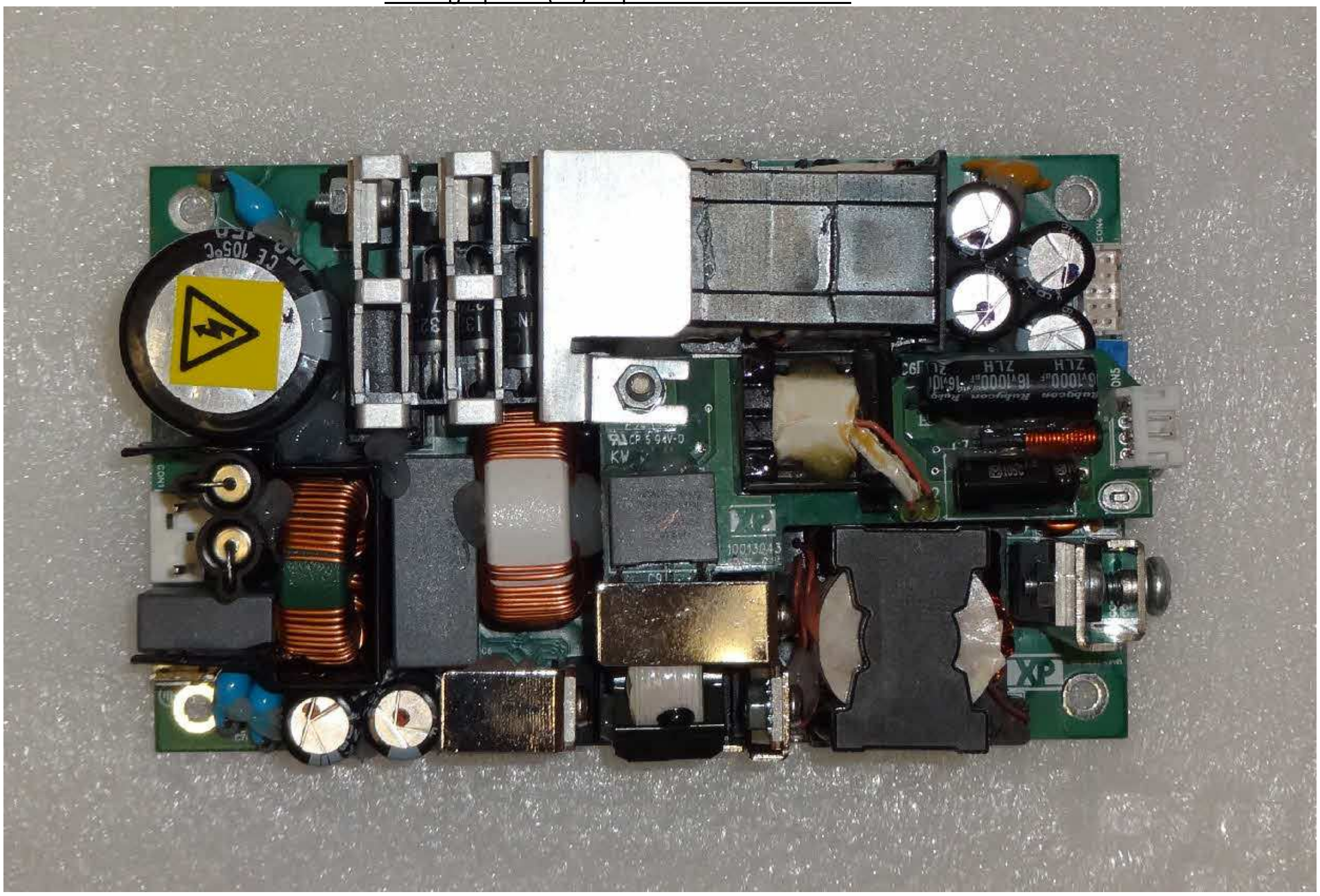
Photographs - (04) Internal View

Photographs - (04) Internal View



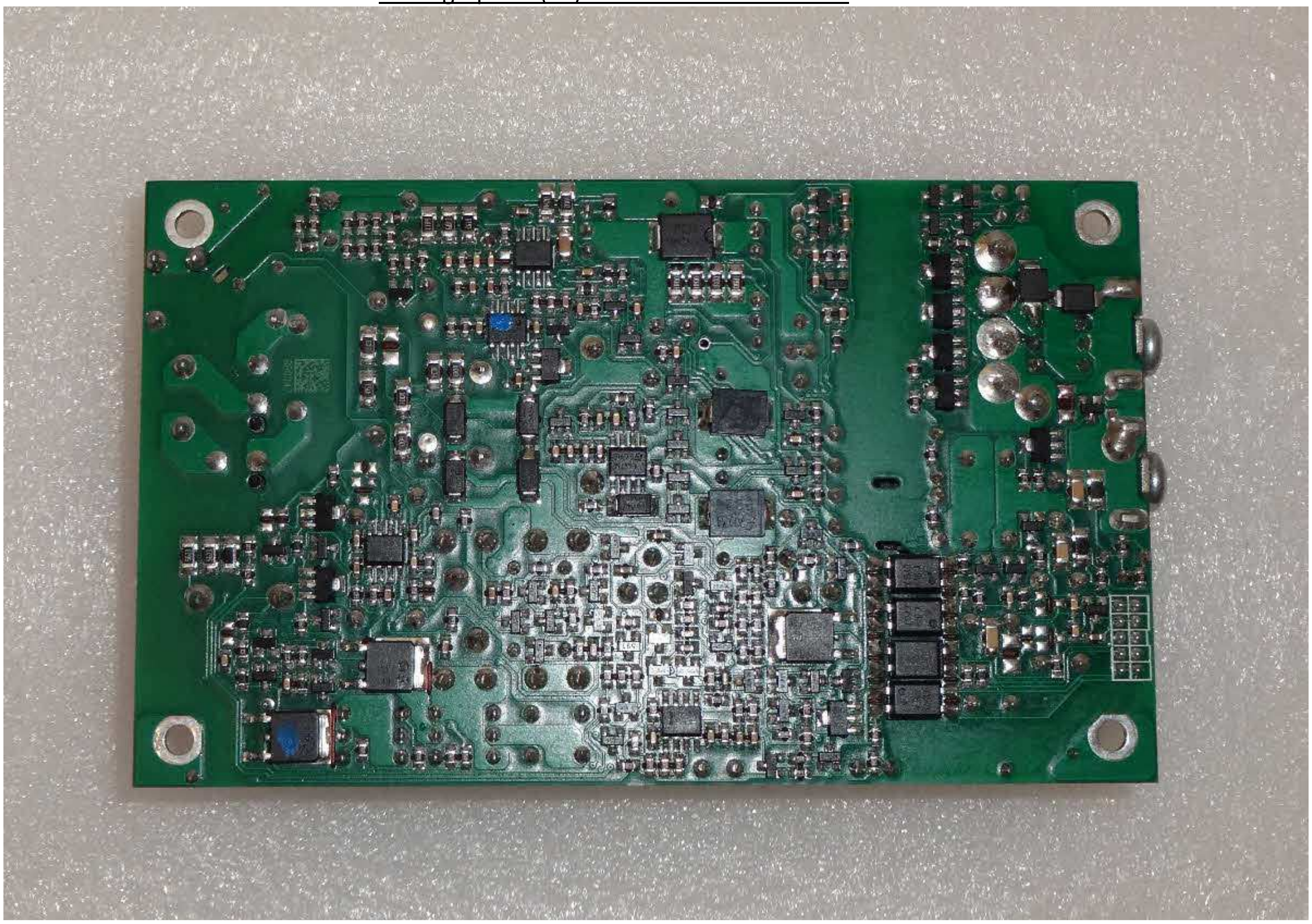
Photographs - (05) Top View without Cover

Photographs - (05) Top View without Cover



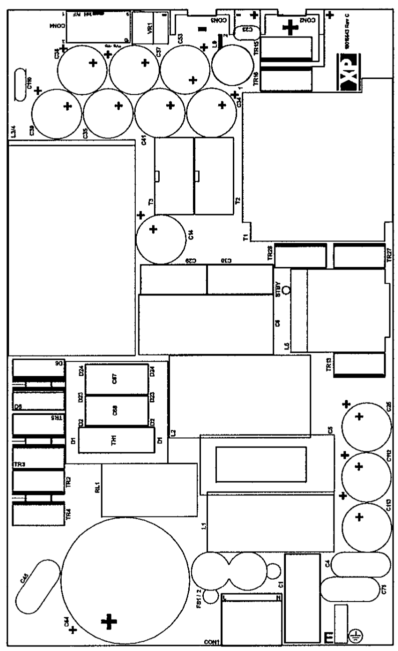
Photographs - (06) Bottom view of the PWB

Photographs - (06) Bottom view of the PWB

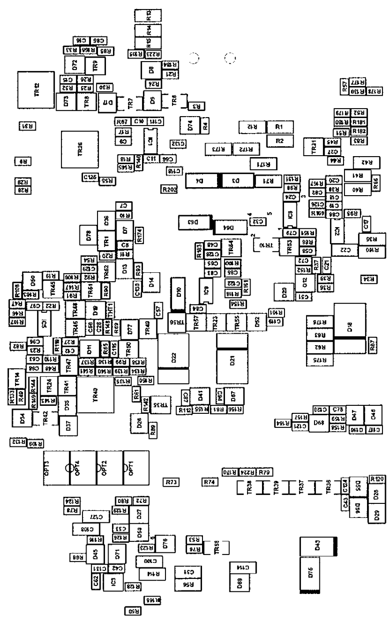


Schematics + PWB - (01) Component/PWB Trace Layout

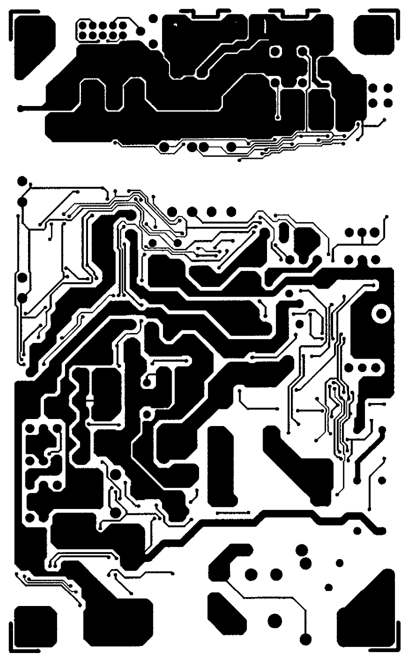
Schematics + PWB - (01) Component/PWB Trace Layout



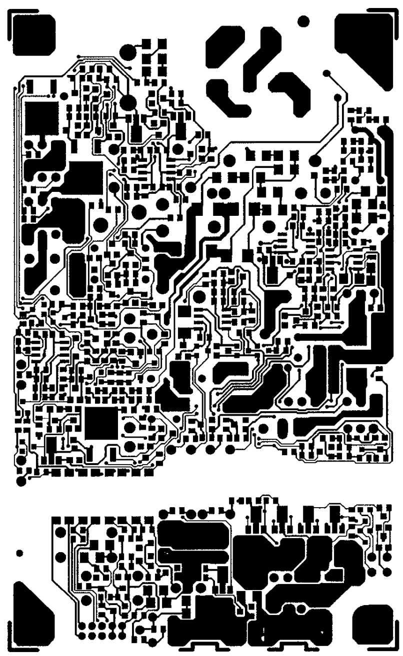
Schematics + PWB - (01) Component/PWB Trace Layout



Schematics + PWB - (01) Component/PWB Trace Layout

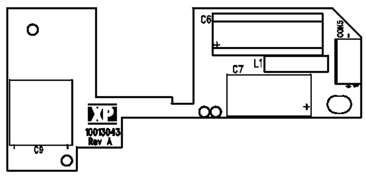


Schematics + PWB - (01) Component/PWB Trace Layout



Schematics + PWB - (02) PWB Component Layout - Standby Board (For models with "A"suffix)

Schematics + PWB - (02) PWB Component Layout - Standby Board (For models with "A"suffix)



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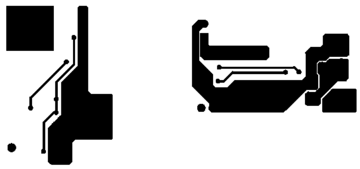
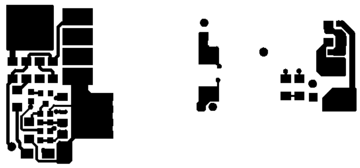
Schematics + PWB - (02) PWB Component Layout - Standby Board (For models with "A"suffix)

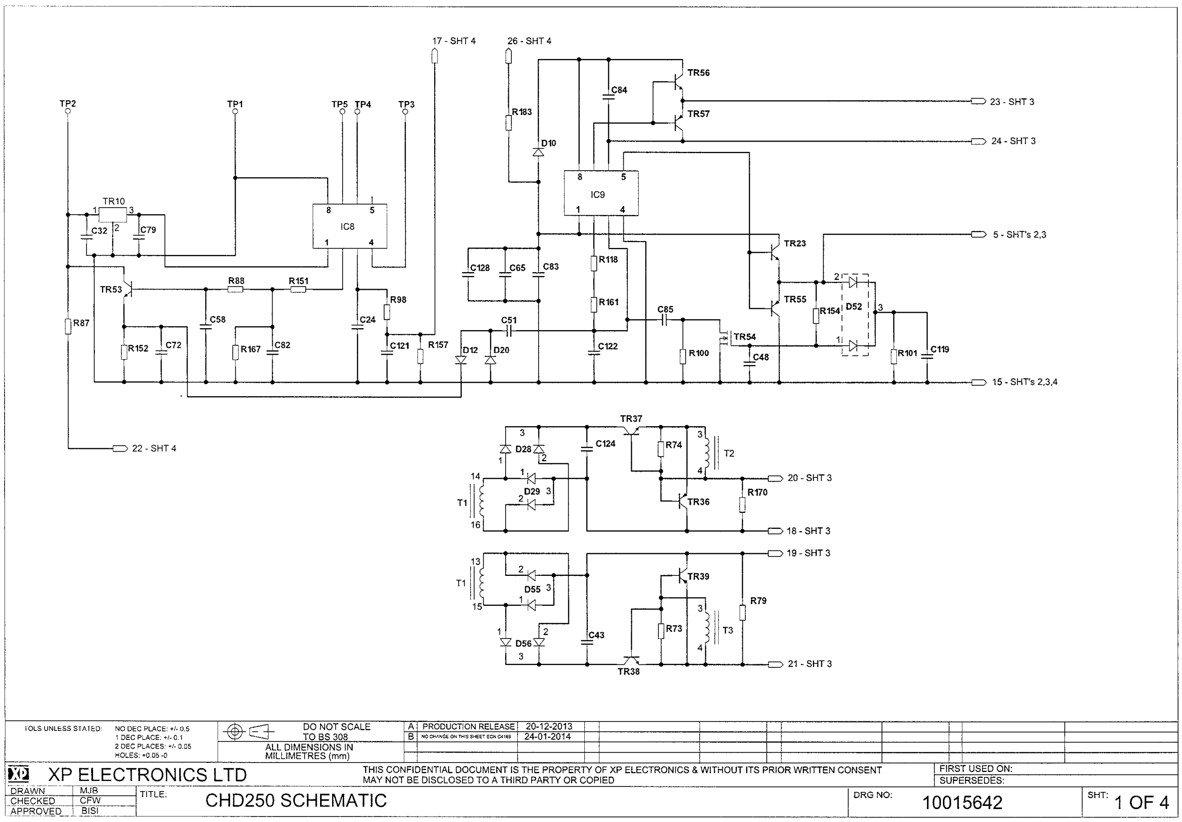


Schematics + PWB - (02) PWB Component Layout - Standby Board (For models with "A"suffix)

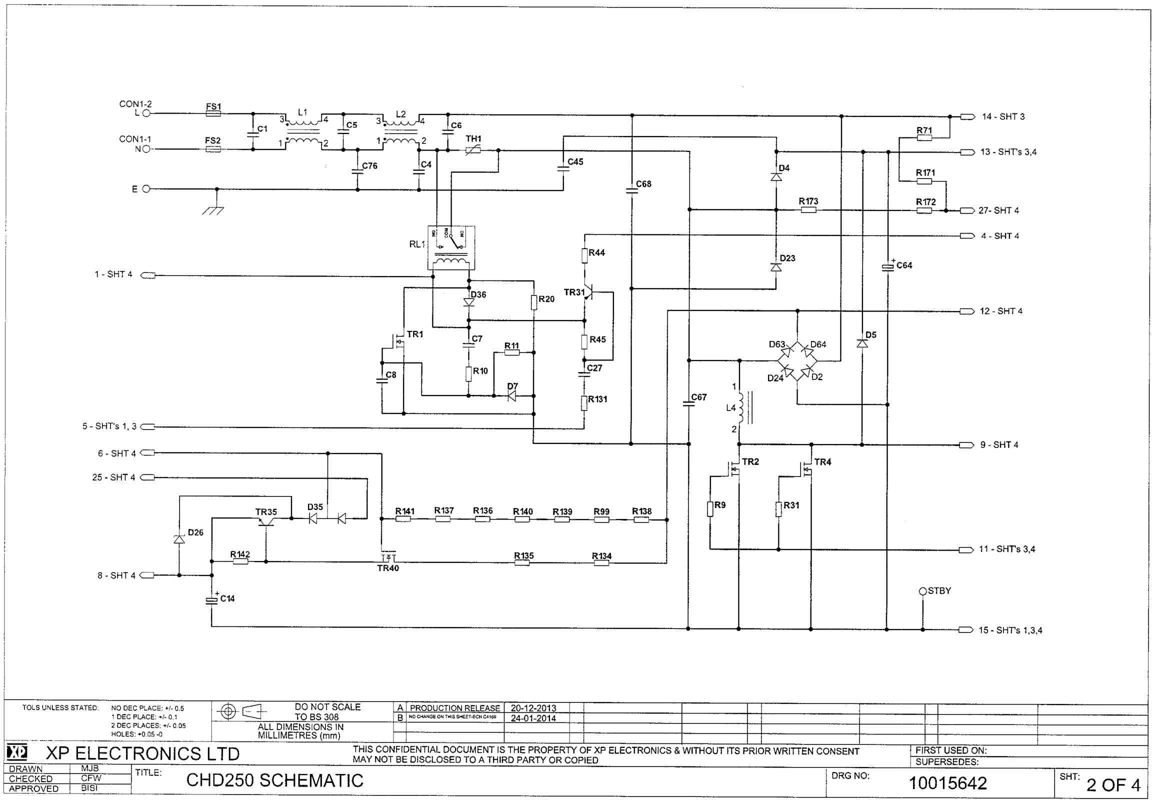


Schematics + PWB - (03) Electrical Schematics

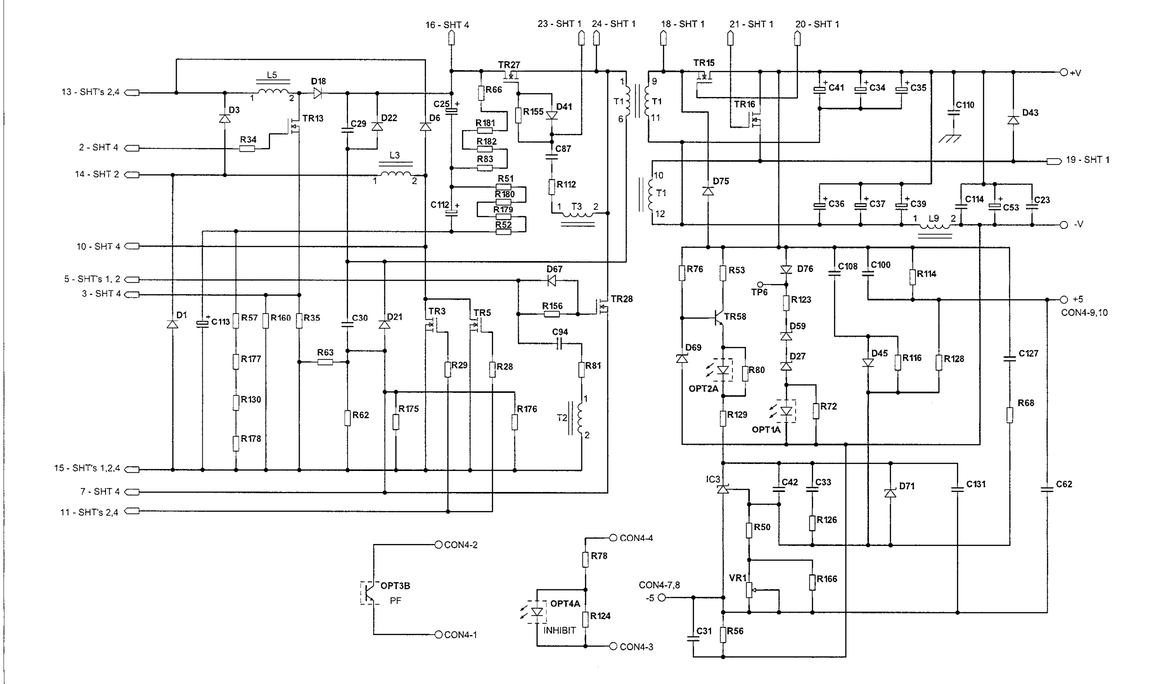
Schematics + PWB - (03) Electrical Schematics



Schematics + PWB - (03) Electrical Schematics



Schematics + PWB - (03) Electrical Schematics



TOLS UNLESS STATED:	NO DEC PLACE: +/- 0.5 1 DEC PLACE: +/- 0.1 2 DEC PLACES: +/- 0.05 HOLES: +0.05 -0	DO NOT SCALE TO BS 308 ALL DIMENSIONS IN MILLIMETRES (mm)	A	PRODUCTION RELEASE	20-12-2013
			B	NO CHANGE ON THIS SHEET- ECN C4169	24-01-2014

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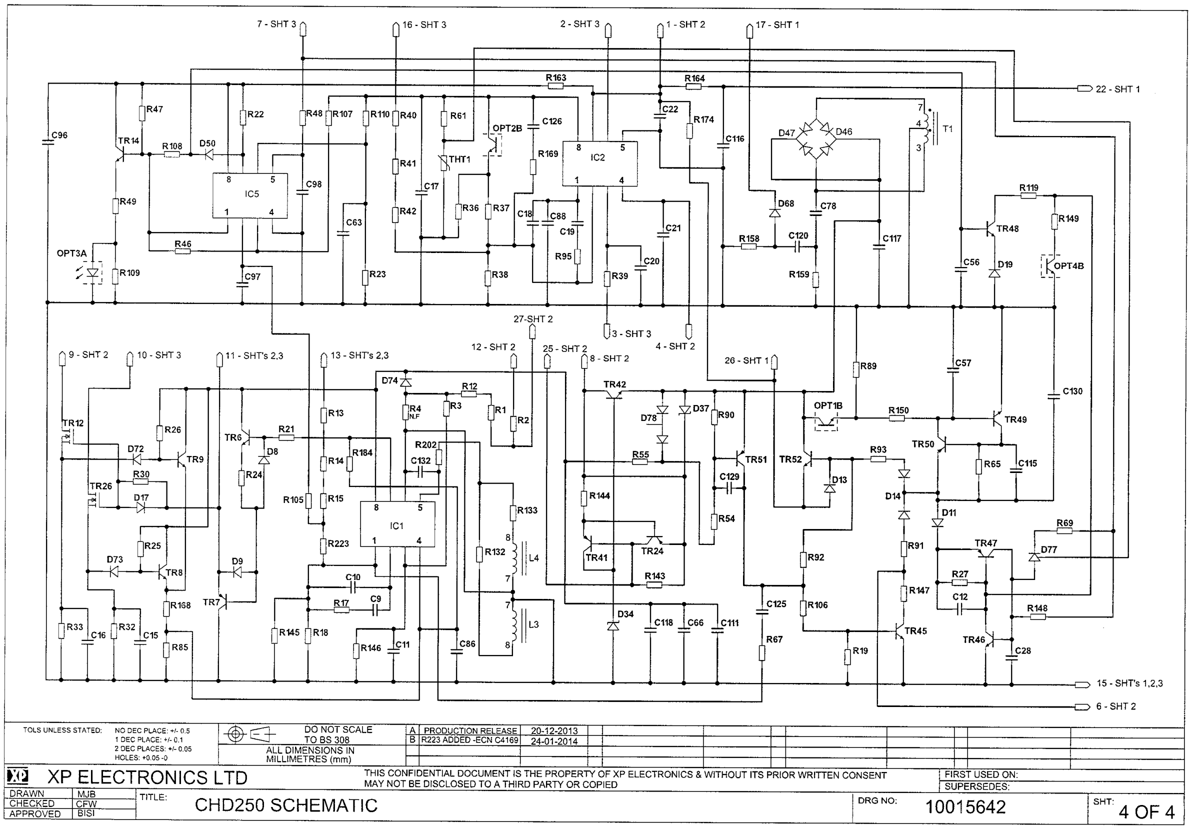
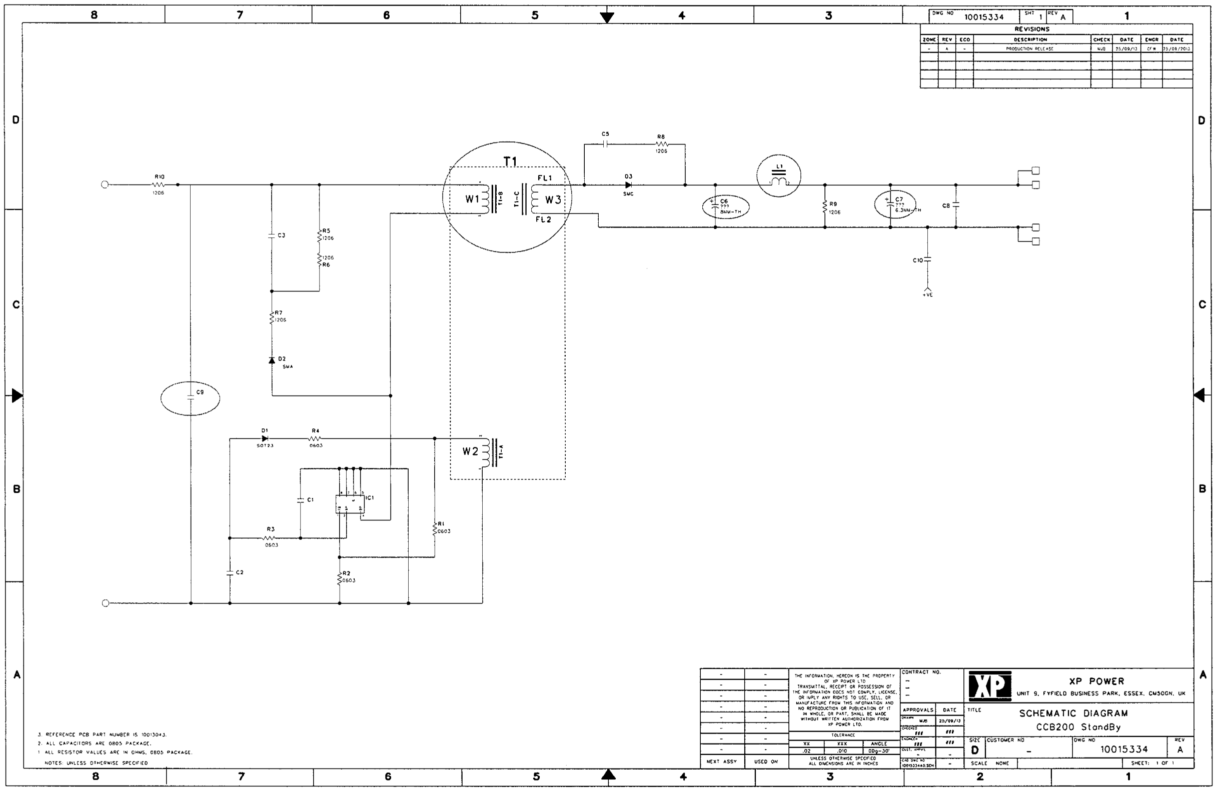
CHECKED	CFW			
APPROVED	BISI			

Schematics + PWB - (03) Electrical Schematics



Schematics + PWB - (04) Electrical Schematics

Schematics + PWB - (04) Electrical Schematics



--------------------------------------END OF APPENDIX A--------------------------------------

UL CERTIFICATION DOCUMENTATION:

APPENDIX B: UL Certification Documentation

This Appendix includes additional documentation for the UL Certification report only.

This report from this point below is associated with the UL Certification report only and NOT the CB Report (if applicable).

Test Record

Models CHD250PS12, CHD250PS24 CHD250PS48 were used for test purposes and considered representative of the entire series.

All applicable tests according to the referenced standard(s) have been carried out.

The following tests were conducted:

Refer to the Test List in Appendix D of this report if testing was performed as part of this evaluation.

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.

The following supplements are provided as a part of this Test Record. NOTE: These supplements are only available to the Applicant via the CDA system.

Refer to the Enclosures, which is located in Appendix A of this report.

--------------------------------------END OF APPENDIX B--------------------------------------

APPENDIX C: Follow-Up Service Documentation

Follow-Up Service Procedure

It is important to keep UL Procedures and Test Reports up-to-date as new or revised pages are received. Correct maintenance will decrease the amount of time the UL Representative spends when visiting your facility.

UL LLC offers MyHome @UL, a dedicated website providing secure access to online tools and databases that can help simplify your compliance activities. You can customize your personal MyHome @UL page to include the content needed most, including timely information about certification updates and links to other Web sites you visit regularly. Visit http://my.home.ul.com/ to sign up today!

PAGES (in content order)	FUNCTION	HOW TO UPDATE
Authorization Page	Displays the Product Category, the type of Follow-Up Service (Type R=Reexamination / Type L=Label), the File Number and the Volume Number associated with each Applicant's, Manufacturer's and Listee's company name and address.	Replace existing page by matching the UL File Number and Volume Number. Discard the older page (refer to "Issued" or "Revised" date).
Addendum to Authorization Page*	Lists the additional names and addresses of manufacturing locations, when multiple locations exist	Replace existing page by matching the UL File Number and Volume Number. Discard the older page (refer to "Issued" or "Revised" date).
Listing Mark Data (LMD), Classification Mark Data (CMD) or Recognized Component Mark Data (RCMD) Pages* #	Used only for products covered under Type R Service. Displays the correct LMD, CMD, or RCMD Mark, the Control Number for Listed and Classified categories and additional information regarding minimum size, application, procurement, and any other optional markings, in addition to the UL Mark.	Replace existing page by matching the UL File Number and Volume Number. Discard the older page (refer to "Issued" or "Revised" date).
Multiple Listing (ML) Correlation Sheet*	Correlates product model numbers between those products made by a Manufacturer for the Basic Applicant and those supplied to another company, the Multiple Listee.	Replace, add or delete page(s) with most current "Issued" or "Revised" date.
Index*	Catalogs the contents of the Procedure by some logical means, i.e. Section Number, Report Reference Number, or Issue Date.	Replace present page by matching the UL File Number, Volume Number, Page Number and most current "Revised" date.
Appendices* # (App.)	Contains instructions for the Manufacturer and UL Representative concerning specific responsibilities and required periodic tests. May also outline tests to be conducted on samples to be forwarded to UL's facilities.	Replace present page by matching the UL File Number, Volume Number, Appendix letter (eg. App. A), Page Number and most current "Revised" date.
	Standardized Appendix Pages are the same for all manufacturers within a particular product category.	Replace present page by matching the Appendix letter (eg. App. A), Page Number and most current "Revised" date.
Follow-Up Inspection Instructions (FUII) Pages*	Contains information similar to that in the Appendices. FUII Pages are issued as part of the Procedure when a UL Standard is used in conjunction with the Procedure, and are the same for all manufacturers within a particular category.	Replace present pages by matching the Page Number and most current "Issued" or "Revised" date.
Section General* # (Sec. Gen.)	Contains description, requirements, identifications and/or specifications that are common to all products covered by the entire volume and supplements the information provided in the Description Section.	Replace present page by matching the UL File Number, Volume Number, Page Number and most current "Revised" date.
Description, or Section (Sec.)*	Contains the specific description of one or more products or systems. This includes written text supplemented by photographs, drawings, etc., as necessary, to define features that affect compliance with the applicable requirements.	Replace present page by matching the UL File Number, Volume Number, Section Number, Page Number and most current "Issued" date.

***** The above page(s) may not appear in all UL Follow-Up Service Procedures; UL's Conformity Assessment Services staff determines their inclusion.
# These pages are combined in the **Generic Inspection Instructions** for International Style Reports, identified, as example by Vol. X1, X2, etc.

PLEASE NOTIFY YOUR LOCAL UL OFFICE OF ANY CHANGES IN CONTACT NAME, COMPANY NAME OR ADDRESS, SO THIS MATERIAL AND IMPORTANT INFORMATION CONTINUES TO BE DELIVERED TO YOUR FACILITY WITHOUT INTERRUPTION.

UL Authorization Page

UL File Number: E146893 Volume: D1 Issue Date:

FOLLOW-UP SERVICE PROCEDURE

(TYPE R)

PRODUCT CATEGORY NAME
(QQHM2 / QQHM8)

Manufacturer:	SEE ADDENDUM FOR MANUFACTURING LOCATIONS
Applicant: 100565739	35701 (Party Site) XP POWER LLC 15641 Red Hill Ave., Ste. 100 Tustin, CA 97280 USA
Listee/Classified/ Recognized Co.:	Same as Applicant (unless specified differently below)

This Follow-Up Service Procedure authorizes the above Manufacturer(s) to use the marking specified by UL LLC, or any authorized licensee of UL LLC, including the UL Contracting Party, only on products when constructed, tested and found to be in compliance with the requirements of this Follow-Up Service Procedure and in accordance with the terms of the applicable service agreement with UL Contracting Party and any applicable Service Terms. The UL Contracting Party for Follow-Up Services is listed on addendum to this Follow-Up Service Procedure ("UL Contracting Party"). UL Contracting Party and UL LLC are referred to jointly herein as "UL."

UL further defines responsibilities, duties and requirements for both Manufacturers and UL representatives in the document titled, "UL Mark Surveillance Requirements" that can be located at the following web-site: http://www.ul.com/fus and in the document titled "UL and Subscriber Responsibilities" that can be located at the following website: http://www.ul.com/responsibilities. Manufacturers without Internet access may obtain the current version of these documents from their local UL customer service representative or UL field representative. For assistance, or to obtain a paper copy of these documents or the applicable Service Terms, please contact UL's Customer Service at http://www.ul.com/global/eng/pages/corporate/contactus, select a location and enter your request, or call the number listed for that location.

The Applicant, the specified Manufacturer(s) and any Listee/Classified/Recognized Co. in this Follow-Up Service Procedure must agree to receive Follow-Up Services from UL Contracting Party. If your applicable agreement is a Global Services Agreement ("GSA") with an effective date of January 1, 2012 or later and this Follow-Up Service Procedure is issued on or after that effective date, the Applicant, the specified Manufacturer(s) and any Listee/Classified/Recognized Co. will be bound to a Service Agreement for Follow-Up Services upon the earliest by any Subscriber of use of the prescribed UL Mark, acceptance of the factory inspection, or payment of the Follow-Up Service fees which will incorporate such GSA, this Follow-Up Service Procedure and the Follow-Up Service Terms which can be accessed by clicking here: www.ul.com/contracts/Terms-After-12-31-2011. In all other events, Follow-Up Services will be governed by and incorporate the terms of your applicable service agreement and this Follow-Up Service Procedure.

It is the responsibility of the Listee/Classified/Recognized Co. to make sure that only the products meeting the aforementioned requirements bear the authorized Marks of UL LLC, or any authorized licensee of UL LLC.

This Follow-Up Service Procedure contains information for the use of the above Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Manufacturer with the understanding that it will be returned upon request and is not to be copied in whole or in part.

This Follow-Up Service Procedure, and any subsequent revisions, is the property of UL and is not transferable. This Follow-Up Service Procedure contains confidential information for use only by the above named Manufacturer(s) and representatives of UL and is not to be used for any other purpose. It is provided to the Subscribers with the understanding that it is not to be copied, either wholly or in part unless specifically allowed, and that it will be returned to UL, upon request.

Capitalized terms used but not defined herein have the meanings set forth in the GSA and the applicable Service Terms or any other applicable UL service agreement.

UL shall not incur any obligation or liability for any loss, expense or damages, including incidental, consequential or punitive damages arising out of or in connection with the use or reliance upon this Follow-Up Service Procedure to anyone other than the above Manufacturer(s) as provided in the agreement between UL LLC or an authorized licensee of UL LLC, including UL Contracting Party, and the Manufacturer(s).

UL LLC has signed below solely in its capacity as the accredited entity to indicate that this Follow-Up Service Procedure is in compliance with the accreditation requirements.

Bruce A. Mahrenholz
Director
North American Certification Program

Addendum to Authorization Page

LOCATION

Manufacturing Factory(ies) Information:

XP Power Inc
990 Benecia Ave
Sunnyvale CA 94085-2804 USA
Party Site: 12864
Subscriber No.: 407169001
Factory ID: FS
UL Contracting Party: UL LLC

XP POWER (VIETNAM) CO LTD
LOT D - 4Q - CN MY PHUOC 3 INDUSTRIAL PARK
BEN CAT DISTRICT BINH DUONG VIETNAM
Party Site: 38034
Subscriber No.: 100574113
Factory ID:
UL Contracting Party: UL AG

XP POWER (KUNSHAN) LTD
230 BIN JIANG NAN RD ZHANGPU TOWN
KUNSHAN JIANGSU, 215321 CHINA
Party Site: 33779
Subscriber No.: 100101437
Factory ID: K
UL Contracting Party: UL AG

UL Appendix:

GENERIC INSPECTION INSTRUCTIONS

Product Category	Product Category CCN
Power Supplies, Medical and Dental - Component	QQHM

These instructions consist of the following Parts:

Part	Description
AA	Instructions and Responsibilities for UL Representative
AB	Instructions for Follow-Up Tests at UL
AC	Responsibilities and Requirements for Manufacturer
AD	General Terminology
AE	General Product Construction Requirements
AF	UL Certification Marks

PART AA

INSTRUCTIONS AND DUTIES FOR UL REPRESENTATIVE

AA1.0	**UL REPRESENTATIVE'S DUTIES**
AA1.1	The UL Representative's duties include, but are not limited to: A. Examining the construction of production intended to bear the UL Mark or Marking to determine compliance with the description of the product and any other requirements expressed in this Procedure. B. Where so specified in each Test Report, forwarding samples to UL for Follow-Up tests. C. Where so specified by Part AC, inspecting the test records and facilities of the manufacturer to ensure that: 1. The proper number of samples are undergoing the required tests, and 2. The required tests are being performed correctly, and 3. The proper information is being recorded and is up-to-date, and 4. The instruments being used for the tests have been calibrated at the prescribed interval and are in good working order.

AA2.0	**PROCEDURE IN CASE OF NONCONFORMANCE**
AA2.1	Report to the manufacturer and UL LLC by means of a Variation Notice (VN) if: A. Variations in construction are found, or B. The manufacturer's method and/or frequency of testing is not as described, or C. The test records maintained by the manufacturer are not as described, or D. The manufacturer's inspection program is not being performed as described, or E. Nonconforming test results are witnessed during tests conducted specifically for the UL Representative.
AA2.2	Explain to the manufacturer that a VN is a means of communication with the manufacturer and applicant and forms a record of those items where nonconformance to the Procedure has been found. Reference is to be made to "Information for Manufacturer's Variation Notices" on the back of the VN.
AA2.3	When a product does not conform with the Procedure, require that the manufacturer: A. Remove any markings referencing UL from the product, or obliterate these markings where the marking is imprinted, die-stamped, molded, etc., or B. Suitably modify all products that do not comply with the Procedure, or C. Hold shipment pending further instructions from UL LLC D. Demonstrate that one of the conditions shown below exist and be able to provide any of the referenced information or documentation. Under the following conditions, variations from Procedure described constructions shall be noted on a Variation Notice, however, the manufacturer is not required to remove UL markings, rework the product or hold shipment. 1. A part is called out as Listed and the manufacturer or part number is not as described and the alternate part being used is Listed and all other attributes for the part are met. 2. A part is called out as a Recognized Component (R/C) and the manufacturer or part number is not as described and the alternate part being used is Recognized under the described category and all other attributes for the part are met.

	3. Internal wiring is identified by UL Style Number and the manufacturer is using (R/C) Appliance Wiring Material (AWM) with Style Numbers not referenced in the Procedure description. The manufacturer must be able to provide documentation that the voltage and temperature ratings of the alternate Style Number are equal to or greater than the ratings of the Style Numbers specified in the Procedure. AWM with Style Numbers not specified in the Procedure must be rated VW-1.
AA2.4	It is the manufacturer's responsibility to forward a copy of the Variation Notice to the Applicant.
AA2.5	If the manufacturer or Applicant question the rejection of the product, the material may be held at the point of inspection, typically at the factory, pending an appeal. The manufacturer has the right to appeal a decision with which they disagree. Provide the name of the UL engineer to whom the appeal is to be made. To resolve issues involving variations in construction, the manufacturer and Applicant may also be offered the option of contacting their New Work assignment engineer. Held shipment appeals involving Follow-Up Services issues (e.g. -improper labeling, etc.) should be directed to an appropriate staff member designated by the Reviewing Office for the product category. Should UL grant temporary authorization for the continued use of the UL Mark, such temporary authorization shall only be for the time needed to review and/or process the Procedure revisions, or as otherwise specified to cover a particular lot or production run. The manufacturer shall satisfy the UL Representative that all marks referencing UL are removed from the rejected material. Those marks referencing UL not destroyed during their removal from the product shall be turned over to the UL Representative for destruction.

AA3.0	**EXAMINATIONS TO BE WITNESSED BY UL REPRESENTATIVE**
AA3.1	**Inspection of Printed Wiring Boards and Printed Wiring Board Assemblies**
AA3.1.1	The UL Representative shall determine that the printed wiring board is as specified in the Procedure.
AA3.1.2	If the soldering operation is performed at the Original Equipment Manufacturer's factory (OEM) and the soldering temperature and dwell time are given in the Procedure, the temperature and dwell time shall also be checked to determine that they do not exceed the limits specified.
AA3.1.3	The UL Representative shall determine that the printed wiring board is as specified in the Procedure. The UL Representative then shall make a visual inspection of the printed wiring board assemblies for any mechanical damage or evidence of exposure to excessive temperatures that may have occurred during the soldering operation. The base material and the conductors shall be examined for nonconforming features as indicated below: A. Conductors, Terminal Pads, and Tabs 1. Reduction in cross-section, such as scratches, nicks, pin holes, tearing. 2. Loosening or lifting of printed wiring conductor, pad, or tab from the base material. 3. Sections missing or damaged. 4. Blistering 5. Breaks B. Base Material 1. Warping 2. Cracking 3. Charring, blistering, or other heat damage due to solder process 4. Delamination

AA3.1.4	With respect to printed wiring boards using Surface Mounted Technology (SMT), if the SMT assembly process is done at temperatures and times below the soldering limits, the UL Representative will accept the boards. If the assembly process is conducted on-site with temperatures/times in excess of soldering limits or if the process is conducted off-site and the temperatures/times cannot be verified, a visual inspection will be conducted by the UL Representative in accordance with the guidelines shown above. If any instructions for SMT components are specified in the Procedure, then these SMT instructions are superseded.

AA4.0	**SAMPLE SELECTION FOR TESTS CONDUCTED AT MANUFACTURER AND UL**
AA4.1	**Standard Follow-Up Tests for Plastic Enclosures and Parts**
AA4.1.1	Each Test Report indicates the plastics enclosures or parts that may require Follow-Up Service testing. The UL Representative shall consult Table AA1 to determine which tests are required.
AA4.1.2	With respect to Table AA1, Access to Molding Operation shall be determined in accordance with the following:
	A. UL is considered to have access to the plastic molding operation if the molding takes place in the end-product assembly location and the operation complies with the requirements below.
	B. The UL Representative shall have free, unannounced, and immediate access to the factory and the storage facility during all business hours of the factory or storage facility. The UL Representative shall also have access to the records required below.
	C. The manufacturer shall mark each enclosure, cartons containing enclosures, or a tag accompanying the enclosure in a manner such that the UL Representative can trace the origin of each enclosure to a specific batch.
	D. The manufacturer shall keep records for each batch of plastic enclosures molded, in accordance with the below requirements.
	E. The records shall be thorough, so that the UL Representative may determine the composition of the enclosure. The records shall be maintained for at least six months from the date of production, and shall be accurate. All of the following items are to be covered:
	1. The records shall indicate the base material. The manufacturer may not blend resins. *Exception: The manufacturer may blend resins provided it is specifically stated in the Procedure.*
	2. The records shall include the amount of regrind used. Thermoplastic regrind shall not exceed 25 percent by weight. UL does not authorize the use of thermoset regrind. *Exception: Thermoplastic regrind may exceed 25 percent provided it is specifically stated in the Procedure and does not exceed the percent stated in the Procedure.*
	3. The composition of the enclosures shall not include recycled plastics, color concentrates, flame retardants, or mold release lubricants. *Exception: One or more of the elements indicated in 3) may be included, provided the Procedure specifically acknowledges its use.*
	F. However, if a minor discrepancy (such as a mathematical error or a bookkeeping oversight) occurs, the manufacturer shall discuss the error with the responsible individual. If necessary, the manufacturer shall correct the error on the records. To prevent recurrence of the error, the error shall be documented on a Variation Notice, and the UL Representative shall pay particular attention to this area during future inspections.
	G. If a major discrepancy appears in the records, or if the records are not complete, or UL no longer has access to the molding operation, the UL Representative shall issue a Variation Notice so that the Procedure will be modified accordingly

AA4.1.3	Where testing is required, samples are to be selected no less than once per year in accordance with each Test Report. All samples are to be handled in accordance with the requirements of this section.
AA4.1.4	Enclosure samples shall be chosen in a manner such that each enclosure material in use by the manufacturer is represented by tests no less than once over a two-year period. Enclosure materials that are used infrequently (i.e. less than once in a two year period) shall be selected whenever they are used.
AA4.1.5	**Impact Test at Manufacturer**
AA4.1.5.1	Where indicated in Table AA1, the UL Representative shall conduct the Impact Test as part of the product inspection at the manufacturer's facility and shall determine if the manufacturer records the test data in compliance with the requirements of this document *Exception: As noted in Table AA1 footnote (d), the Impact Test shall be conducted at UL if the manufacturer does not have the ability to conduct the test.*
AA4.1.5.2	Each enclosure sample fabricated with the material specified in the Test Report shall be subjected to a single impact. The impact shall be directed onto the surface most likely to demonstrate a nonconformance when the Basis of Acceptability of AA4.1.5.3 is applied. The impact is to be produced by dropping a steel sphere 2 inches (50.8 mm) in diameter and weighing 1.18 pounds (0.536 kg mass) a height of 50.85 in. (129.2 cm). For surfaces other than the top of an enclosure the steel sphere is to be suspended by a cord and swung as a pendulum, dropping through the 50.85 in. (129.2 cm) vertical distance before striking the surface
AA4.1.5.3	Each sample shall withstand the impact of AA4.1.5.2 without being affected to the extent that: A. Uninsulated, live parts are accessible to contact, or B. The mechanical performance of the product is adversely affected so as to create a risk of injury to persons, or C. A condition is produced that can cause a risk of electric shock.
AA4.1.5.4	To determine compliance with AA4.1.5.3 (A), the UL Representative shall apply the articulate probe to verify that the probe cannot contact an uninsulated, live part. It is the manufacturer's responsibility to order and purchase the probe through UL's Corporate Standards Department, at the Northbrook Office.
AA4.1.5.5	To determine compliance with AA4.1.5.3 (B), the UL Representative shall give consideration to the functioning of safety devices and constructional features (such as thermostats, overload protective devices and strain relief). Cracking or denting of the enclosure shall not result in the exposure of moving parts that could cause a risk of injury to persons.
AA4.1.5.6	To determine compliance with AA4.1.5.3 (C), the product shall be subjected to a Dielectric Voltage-Withstand Test as described in AC2.3 without dielectric breakdown.
AA4.1.5.7	If the Impact Test sample produces any one of the conditions specified in AA4.1.5.3, the test is to be repeated on three previously untested samples from the same lot. The results are considered acceptable if all three samples comply with the requirements. If a nonconformance occurs on any one of the additional samples, then the lot shall be considered rejected.
AA4.1.6	**ID and Flammability Tests**
AA4.1.6.1	Samples selected in accordance with Table AA1 shall be tagged with all the following information, and the manufacturer shall forward them to the Reviewing Office: A. Material B. Manufacturer C. Model number D. Follow-Up Test(s) required

	E. Test parameters (if any)

TABLE AA1
FOLLOW-UP TESTING FOR PLASTIC ENCLOSURES AND PARTS

Enclosure plastic	Molding location		
	Recognized Component molder or evaluated component molder other than Recognized [a]	Not evaluated molding	
		UL has access to molding operation [b]	UL does not have access to molding operation [b]
Recognized Component	No tests required	Annual Impact Test at Mfg. OR Annual ID Tests at UL [c, d]	Annual Impact and ID Tests at UL
Unlisted Component [e]	Annual Impact Test at Mfg. [d] AND Annual ID and Flame Tests at UL	Annual Impact Test at Mfg. [d] AND Annual ID and Flame Tests at UL	Bi-annual Impact and ID Tests at UL

[a] The reference to evaluated component molder other than Recognized is in regard to a molder of plastic fabricated parts which has been authorized by UL to mold plastic for the end-use product, but for which no Recognition has been established.

[b] Access to molding operation means the molding takes place in the end-product assembly location and the manufacturer follows the requirements in AA4.1.2.

[c] The manufacturer may elect either an Impact Test or ID Tests. The UL Representative shall act accordingly.

[d] If the manufacturer does not have the ability to perform the Impact Test in accordance with AA4.1.5, the required test samples are to be forwarded to UL for testing.

[e] The reference to Unlisted component plastic is in regard to a component plastic used in a Listed or Recognized product which is separately investigated in accordance with applicable requirements for the end-use product, and for which no coverage has been requested or established.

PART AB

INSTRUCTIONS FOR FOLLOW-UP TESTS AT UL

AB1.0	**GENERAL**
AB1.1	The samples forwarded by the UL Representative shall be subjected to the tests indicated on the sample tags in accordance with any indicated test specifics (e.g. oven temperature).
AB1.2	Unless otherwise notes, all references are to the Generic Inspection Instructions.

TABLE AB1
TEST PARAMETERS

Test	Method	Basis for Acceptability
Impact	AA4.1.5.2	AA4.1.5.3 – AA4.1.5.7
Identification		
Qualitative Infrared Analysis (IR)	UL 746A	Compare to original spectrum in Test Report
Differential Scanning Calorimetry (DSC)	UL 746A	Compare to original thermogram in Test Report
Thermogravimetry (TGA)	UL 746A	Compare to original thermogram in Test Report
Flammability		
3/4 Inch Flame	UL 746C	UL 746C
5 Inch Flame	UL 746C	UL 746C

PART AC

RESPONSIBILITIES AND REQUIREMENTS FOR MANUFACTURER

AC1.0	**MANUFACTURER'S RESPONSIBILITIES (INCLUDING BUT NOT LIMITED TO)**
AC1.1	Control of UL Mark - Restrict the use of markings that reference UL (either directly or by use of the name, an abbreviation of it, or the UL symbol or Classification Mark, or indirectly by means of agreed-upon markings that are understood to indicate acceptance by UL) to those products that are found by the manufacturer's own inspection to comply with the Procedure description. Such restrictions apply to packaging, brochures or other means of advertising that reference UL. Use of such markings is further limited by the agreements that have been executed by the subscriber and UL. Markings shall be confined to the locations authorized in these Generic Inspection Instructions or in individual Test Reports.
AC1.2	Access to Factory - During hours in which the factory is in operation, provide the UL Representative with free access to any portion of the premises where the product or components thereof are being fabricated, processed, finished or stored, and to the test area assigned for the UL Representative's use. The UL Representative shall be permitted to inspect and subject to prescribed tests, prior to shipment, any product bearing or intended to bear markings referencing UL.
AC1.3	Production-Line Tests - Conduct the tests detailed in Part AC2.0.
AC1.4	Required Records - Maintain records of test performance. The records shall include the model or catalog designation of the product, the date of production, the tests performed, number of units tested, test results and action taken on rejections. Records for test performance shall be retained for six (6) months and shall be readily available for review by the UL Representative. Exception - Records of test results need not be maintained for 100% Production-Line Tests.
AC1.5	Test Equipment and Personnel - Provide, at a convenient location, all required test equipment and facilities and any required personnel for conducting all tests that are to be performed at the factory. These shall be available when needed so that the inspection work can proceed without undue delay.
AC1.6	Test Equipment Calibration - Determine that the test equipment is functioning properly daily, and have it calibrated at least annually, or whenever it has been subject to abuse (such as being dropped or struck with an object) or its accuracy is questionable. The test equipment and instruments shall be calibrated either by the manufacturer or by an outside laboratory. In either case, it shall be calibrated by comparison with a standard that is traceable to the applicable U.S. or foreign National Standard. A letter from the outside laboratory or from an off-site manufacturer's calibration lab stating that their lab standards are directly traceable to their country's National Standard and outlining their traceability pathway is considered adequate proof of traceability. For in-house calibrations, the Standard (weight and gauge blocks, etc.) used shall be calibrated every three years, or whenever the Standard has been subject to some form of abuse that may affect the Standard's fitness for use. The Standard shall be stored to protect it from damage or deterioration per the Standard manufacturer's recommendations. Records of the calibration of the test equipment and Standard(s) shall be maintained until the next required calibration is completed and recorded, and shall be readily available for review by the UL Representative.

AC2.0	**REQUIREMENTS FOR PRODUCTION-LINE TESTS**
AC2.1	The following Production-Line Tests shall be conducted on the products covered by this Procedure. During production, the test equipment shall be checked for proper operation at least once during each shift. When the tests are not performed concurrently, it is preferred that the Grounding Continuity Test be performed before either Dielectric Voltage-Withstand Test.
AC2.2	**Production-Line Grounding Continuity Test**
AC2.2.1	General - Except as may be noted under "Exceptions" in each Test Report, the manufacturer shall subject 100 percent of production of all of the following products to a routine Production-Line Grounding Continuity Test as described in section AC2.2.3: A. Products that are provided with a grounding type power supply cord, or B. Fixed products that are for permanent connection to the branch circuit. Exception: This test is not required for permanent connection to the branch circuit by fixed wiring if the design does not employ bonding jumpers or grounding wiring to remote units.
AC2.2.2	Test Equipment - Any suitable continuity-indicating device (such as an ohmmeter, a battery and buzzer combination, or the like) may be used to determine compliance with the Grounding Continuity Test requirements.
AC2.2.3	Method - Continuity shall be determined between the grounding conductor of the attachment plug cap, and/or the designated main grounding point, and accessible dead-metal parts of the product, using the test equipment indicated above. A single test is sufficient if the accessible metal selected is conductively connected by design to all other accessible metal.
AC2.2.4	Basis for Acceptability - There shall be grounding continuity between the parts specified.
AC2.3	**Production-Line Dielectric Voltage-Withstand Test**
AC2.3.1	General - Except as may be noted under "Exceptions" in each Test Report, the manufacturer shall subject 100 percent of production of all products to a routine Production-Line Dielectric Voltage-Withstand Test as described in section AC2.3.3.
AC2.3.2	Test Equipment - The test equipment shall include a means of indicating the test potential, an audible or visual indicator of electrical breakdown, and either a manually operated reset device to restore the equipment after electrical breakdown or an automatic feature that rejects any unacceptable unit. If an ac test potential is applied, the test equipment shall also include a transformer having an essentially sinusoidal output. If the output of the test-equipment transformer is less than 500 volt-amperes, the equipment shall include a voltmeter in the output circuit to indicate the test potential directly. If the output of the test-equipment transformer is 500 volt-amperes or more, the test potential may be indicated (1) by a voltmeter in the primary circuit or in a tertiary-winding circuit, (2) by a selector switch marked to indicate the test potential, or (3), in the case of equipment having a single test-potential output, by a marking in a readily visible location to indicate the test potential. When marking is used without an indicating voltmeter, the equipment shall include a positive means, such as an indicator lamp, to indicate that the manually operated reset switch has been reset following a dielectric breakdown. Test equipment other than that described above may be used when it can be shown that UL has previously confirmed in writing that the equipment complies with the above requirements and is deemed suitable for use for this test.

AC2.3.3	<u>Method</u> - Each product shall withstand without electrical breakdown, as a routine production-line test, the application of an ac potential at a frequency within the range of 40-70 Hz or DC potential between the primary wiring, including connected components, and accessible dead metal parts that are likely to become energized. The test potential and duration shall be in accordance with Table AC1. The manufacturer's test conditions may be higher than those shown in Table AC1 when necessary to comply with other international product safety certifications. The product may be in a heated or unheated condition for the test. The test shall be conducted when the product is complete (fully assembled), and it is not intended that the product be unwired, modified, or disassembled for the test, unless otherwise permitted below: A. A part, such as a snap cover or a friction-fit knob, that would interfere with conducting the test need not be in place. B. The test may be conducted before final assembly if the test parameters represent that for the completed product. During the test, the primary switch is to be in the on position, both sides of the primary circuit of the product are to be connected together and to one terminal of the test equipment, and the second test-equipment terminal is to be connected to accessible dead metal. Electromagnetic interference filter capacitors connected to the primary circuit shall not be disconnected during the test.
AC2.3.4	<u>Basis for Acceptability</u> - All products shall withstand the applied potential without an indication of electrical breakdown.

TABLE AC1
DIELECTRIC VOLTAGE-WITHSTAND TEST CONDITIONS

Product Voltage Rating (V)	Test Potential (V rms / dc)	Time
120	840 V rms / 1200 V dc	2 sec
240	1390 V rms / 1970 V dc	2 sec
120/240	0.9 times of clamping voltage*	2 sec

Comment: *If a transient limiting device is provided, see individual description for details and values.

PART AD

GENERAL TERMINOLOGY

AD1.0	**ABBREVIATIONS / DEFINITIONS**	
AD1.1	IEC	Component provided with a testing agency's mark as indicated in Table II
AD1.2	PRI	Primary circuit (mains)
AD1.3	PWB	Printed wiring board
AD1.4	SEC	Secondary circuit
AD1.5	CN	Component provided with CSA or CUL Marking
AD1.6	LC	Supplied by source limited to the values specified Table 17 (see below)

Table 17 – Limits of maximum available current

Open-circuit output voltage (U or $\hat{U}$) V			Maximum available current A
a.c. r.m.s.	**d.c.**	**Peak[a]**	**a.c. r.m.s. or d.c.**
$U \leq 2$	$U \leq 2$	$\hat{U} \leq 2,8$	50
$2 < U \leq 12,5$	$2 < U \leq 12,5$	$2,8 < \hat{U} \leq 17,6$	$100 / U$
$12,5 < U \leq 18,7$	$12,5 < U \leq 18,7$	$17,6 < \hat{U} \leq 26,4$	8
$18,7 < U \leq 30$	$18,7 < U \leq 60$	$26,4 < \hat{U} \leq 42,4$	$150 / U$

[a] The peak value ($\hat{U}$) applies to non-sinusoidal a.c. and to d.c. with ripple exceeding 10 %, and is provided for convenience. The r.m.s. value of the maximum available current shall be determined as that value is related to heating.

PART AE

GENERAL PRODUCT CONSTRUCTION REQUIREMENTS

AE1.0	**CONSTRUCTION DETAILS**
AE1.1	Unless otherwise described or supplemented in individual Test Reports, the following requirements apply to all equipment included in this Procedure. It is the manufacturer's responsibility to assure the compliance of production with these requirements.
AE1.1.1	<u>Accessories Parts and Accessories</u> - Such items packaged with the product shall be specifically described in a Test Report.
AE1.1.2	<u>Adapters</u> – Three or two wire grounding type adapters shall not be furnished with the product unless specifically authorized by a Test Report.
AE1.1.3	<u>Bonding</u> - Except where specifically noted in a Test Report, bonding of internal dead-metal parts to the enclosure for grounding purposes shall be accomplished by a positive means such as clamping, riveting, bolting or screwed connection. The bonding connection shall reliably penetrate any nonconductive coatings such as paint or vitreous enamel.
AE1.1.4	<u>Casualty Considerations</u> - Except as described, or as necessary for normal operation of the equipment, there shall be no sharp edges, burrs, points, or spikes inside or outside the device that may cause injury during use or during cleaning operations.
AE1.1.5	<u>Connectors</u> - Connectors shall be applied so as to ensure that all bare strands are contained and insulated.
AE1.1.6	<u>Grounding</u> - The following guidelines shall be observed: A. <u>Non-Detachable Cord Connected Appliance</u> - The equipment-grounding conductor of the flexible cord: 1. Shall be connected to the grounding member of the attachment-plug cap. Note: The grounding member of the attachment-plug shall be fixed in position with respect to the cap. 2. Shall be conductively connected to all dead-metal parts of the product that are specified in the description as being connected to the grounding conductor. The grounding-conductor shall be connected by either (1) a screw or other reliable means which serves no other purpose and which is not liable to be removed during any servicing operation, or (2) a threaded grounding stud on which a closed ring connector secured to the ground conductor is the first conductor mounted and secured by a nut and split ring lockwasher. Solder alone shall not be used for securing this conductor. Note: The screw or stud and nut shall: (1) be provided with a means to penetrate nonconductive coatings, such as paint or enamel; (2) be of a corrosion-resistant metal or shall be protected against corrosion; and (3) be marked on or adjacent with a grounding symbol or the IEC417 Grounding Symbol 5019 " ⏚ ". The installation instructions shall identify the meaning of the symbol. B. <u>Detachable Cord Connected Appliance</u> - Polarization shall be maintained through the load fitting of the cord (appliance coupler) and the mating connector (appliance inlet) on the product. The load fitting shall be a three wire ANSI configuration. Exception: The load fitting need not be an ANSI configuration provided it is wired as follows (the description applies when viewing the face of the connector on the product, with the center contact down):

	1. The right contact shall be connected to the grounded conductor (neutral) of the cord. 2. The center contact shall be connected to the grounding conductor of the cord. C. <u>Permanently-Connected Products</u> - In a permanently connected product (1) all exposed metal parts, and (2) all dead-metal parts within the enclosure, which are specified in the description as being connected (see "Bonding") to the grounding conductor, shall be conductively connected to: 1. The point of the enclosure at which the metal raceway of the power supply circuit will be connected, and 2. The equipment-grounding field-wiring terminal or lead. The equipment-grounding terminal or grounding lead shall be connected to the frame or enclosure by a positive means, such as by a bolted or screwed connection. The grounding connection shall reliably penetrate nonconductive coatings, such as paint or vitreous enamel. The grounding point shall be so located that it is unlikely that the grounding means will be removed during normal servicing. A wire-binding screw intended for the connection of an equipment-grounding conductor shall be identified by the protective earth symbol. The head shall be either hexagonal shaped or slotted, or both. A pressure wire connector intended for connection of an equipment grounding conductor shall be identified by the protective earth symbol "⏚". The wire-binding screw or pressure wire connector shall be so located that it is unlikely to be removed during normal servicing of the unit. D. Grounding Terminal:- The grounding conductor shall be the first conductor terminated on a grounding terminal and secured by a separate nut. Other grounding conductors may be secured to this terminal if they are secured on top of the first nut by a second nut.
AE1.1.7	<u>Indicators</u> - Indicator lights shall be clearly visible to the equipment operator.
AE1.1.8	<u>Internal Plastic Parts</u> - For each type of plastic material the manufacturer shall review the Recognized Component Directory and Supplement or UL Online Certification Directory (http://www.ul.com/database) in order to insure that the plastic material in question meets all the material characteristics specified (i.e. flammability rating, Relative Thermal Index (RTI), and color) at the thickness specified. Alternatively, a copy of the Plastic Manufacturer's Component Recognition Report or Recognition Card may be used as a traceability pathway only if these materials were issued after the latest publication of the Recognized Component Directory.
AE1.1.9	<u>Internal Wiring</u> - Conductors shall be routed away or protected from sharp edges and moving parts. Exception: LC that are reliably separated from PRI and SEC circuits need not be Recognized AWM.
AE1.1.10	<u>Lampholder Connections</u> - All screw shells of lampholders shall be connected to the same conductor of the supply circuit.
AE1.1.11	<u>Loose Strands</u> - Ends of stranded conductors shall have all strands contained to prevent contacting of, or reduction of spacing to, other live parts and dead metal. This can be accomplished by: A. Tinning B. Inserting properly into suitable wire connectors. C. Crimped connectors and/or eyelets with the crimp containing all strands D. Solder lugs.
AE1.1.12	<u>Markings</u> - Required information shall be legibly marked on the product, in the manner and minimum height specified.

AE1.1.13	Multiple Voltage - Cord-connected multiple voltage products shall be provided with an attachment plug that is suitable for the voltage for which the product is set.
AE1.1.14	Polarity - An appliance intended for permanent connection to the source of supply and having an identified terminal or lead; and an appliance employing a power supply cord with a polarized attachment plug cap (excluding 250 volt, 2-pole and 250 volt, 3-pole, 3-phase), utilizing the components indicated, shall have the components wired as follows: A. Lampholders and Receptacles - The screw shell or identified terminal or lead of a lampholder and the identified terminal or lead of a receptacle, shall be connected to the identified grounded conductor or terminal within the product. B. Switches (Single Pole) - Unless otherwise specified in the Procedure, a manual single pole switch, and an automatic control with a marked "off" position, shall not be connected to the identified grounded conductor.
AE1.1.15	Power Supply Cords A. Non-Detachable Power Supply Cord – A non-detachable power supply cord as described in each Test Report must be provided and shipped with the unit in all cases. The power supply cord and any alternatives must be described in each Test Report. Each conductor of a non-detachable power supply cord shall have only one color, except the conductor identified by a combination of green and yellow. B. Detachable Power Supply Cord – The detachable power supply cord as described in each Test Report may or may not be shipped with the unit. Follow the guidelines in Table AE1 to apply the alternatives under each of the situations described in the notes to Table AE1. Table AE1 also includes alternative detachable power supply cords that may be shipped with units intended for use outside the USA. C. For Equipment Intended For Sale Outside of the USA and Canada Only - A marking must be provided adjacent to the appliance coupler or at an equivalent location either to inform the user on proper selection of the power supply cord or to see the instruction manual for this information. This marking may be in the form of a tag, nonpermanent label, or product insert that is provided on or packaged with the product so that the marking is visible at the time of installation. The marking (tag, label, or product insert) or instruction manual must contain complete instructions concerning selection of the proper power supply cord as noted in the individual section. D. For Equipment Included For Sale Outside of the USA and Canada - Verify that the detachable power supply cord is either: (1) Certified by one of the agencies listed in Table AE3 or (2) Comprised of cordage marked with an agency marking per Table AE3 or marked per Table AE4. The fittings are to be marked with at least one of the agencies listed in Table AE3

AE1.1.16	Printed Wiring Boards (PWBs) - PWBs shall show no burning, bubbling or other visible evidence of damage to their conductors or substrate material as a result of the fabrication process. With respect to PWBs using Surface Mounted Technology (SMT), it is acceptable if the SMT assembly process is done at temperatures and times below the soldering limits. If the SMT assembly process is conducted on-site with temperatures/times in excess of soldering limits or if the process is conducted off-site and the temperatures/times cannot be verified, a visual inspection shall be conducted by the UL Representative. The PWBs shall be inspected by the manufacturer for mechanical damage or evidence of exposure to excessive temperatures that may have occurred during the soldering operation. If any nonconforming features (defined below) are found after visual inspection, the manufacturer shall reject the lot (as defined in Table AA1). Otherwise, the use of PWBs may continue without any interruption. The base material and the conductors shall be examined for nonconforming features as indicated below. A. Conductors, Terminal Pads, and Tabs 1. Reduction in cross-section, such as scratches, nicks, pin holes, tearing. 2. Loosening or lifting of printed wiring conductor, pad, or tab from the base material. 3. Sections missing or damaged. 4. Blistering 5. Breaks B. Base Material 1. Warping 2. Cracking 3. Charring, blistering, or other heat damage due to solder process 4. Delamination
AE1.1.17	Protection of Wiring - All wire and wire insulation in the product shall be protected from damage. This is commonly achieved by securement, segregation, and routing to keep the wire away from parts or assemblies which can damage the wire or insulation. Internal wiring that might make contact with metal parts shall be protected from sharp metal edges. This can be accomplished by rounding or deburring the metal, using a Recognized Component bushing, or through other construction features described in the Test Report. If the wiring is located where it may be in proximity to combustible material, it shall be protected by the method(s) described in the individual Test Report. Conductors shall be examined for evidence of damage. Faulty practices which can cause damage to conductors and/or insulation include: A. Improper application of crimped connectors, including but not limited to, use of crimping tool and dies not recommended by the manufacturer of the connector. B. Improper insulation removal. C. Overheating of conductor insulation because of routing or contact with hot surfaces during or after installation. D. Use of wire in which the insulation has been cut, cracked, crushed, abraded, etc.

	Constructions which may cause damage to conductors and/or insulation include: A. Moving parts such as rotating or reciprocating cams, shafts, and the like, as well as removable or sliding covers, hinged doors. B. Sharp edges and corners (including screw threads, burrs, points, stamped metal edges). C. Heat sources (including lamps, heating elements, etc.). D. Assemblies that clamp or squeeze wire insulation, unless described in the Test Report.
AE1.1.18	Securement of Parts - Screws or other fastenings used to mount or support small, fragile, insulating parts shall not be tight enough to cause cracking or breaking of these parts. Uninsulated live parts, components which support live parts, and dead metal parts, that are normally intended to remain stationary, shall be prevented from rotating or shifting if movement will result in twisting or stress of internal wiring or connections, or spacings being reduced below that specified in the Test Report. Similar parts that are normally intended to move or rotate shall be prevented from excessive movement if such movement will result in twisting or stress of internal wiring or connections, or spacings being reduced below that specified in the Test Report. A switch, lampholder, attachment plug receptacle, motor attachment plug cap, or other components subject to handling by the user shall be mounted securely and prevented from rotating. Exception: Based on engineering considerations certain constructions of securely mounted push button or plunger type switches, and lampholders of the type in which the lamp cannot be replaced (such as a neon pilot or indicator light in which the lamp is sealed in a non-removable jewel) may be excluded from the above. These constructions are described in the Procedure. However, in no case will nonconforming spacings be allowed. Some means commonly used to prevent rotation are: A. Lock washer. B. Matched keying of the component and its mounting. C. Two or more fasteners (screws, rivets, pins, etc.). D. Strap, clip, or pin fitted into an adjacent part. E. Physical barrier (molded boss, side of enclosure, adjacent component, etc.) that bears against the component.
AE1.1.19	Sharpness of edges - All edges and corners of the frame, enclosure, guards, etc. exposed during normal use or maintenance or that may be contacted by internal wiring are smooth and well rounded.
AE1.1.20	Solder Connections - All solder connections shall be made mechanically secure before soldering. Some typical examples of mechanical securement are: A. Twisting wire around a solder post that has a change in dimension or restriction so unsoldered wire will not slip off post. B. Inserting wire through an opening, and bending over the free end.
AE1.1.21	Strain Relief - Strain Relief methods such as tying the supply cord into a knot or tying the ends of the cord with string shall not be used.
AE1.1.22	Usage Markings - There shall be no marking in the instruction manual, or on the carton or package that is, or could be construed to be, in conflict with or an extension of the use covered in the Test Report.

AE1.1.23	Documentation - Handling of hazardous substances and correct disposal procedure, field-installed devices, explanation of warning symbols.
	A. Documentation such as an instruction manual shall be provided with these products. No attachments or accessories are mentioned in the instruction manual unless specifically mentioned in a particular section.
	B. For products where attachments are specifically mentioned in a particular section, which are packaged and sold separately, the instruction manual packaged with the basic appliance identifies each separately available attachment by attachment name and model number. In addition, the manual packaged with the attachment indicates by name and model number the basic appliance with which it is to be used.
	C. Documentation shall also include the complete electrical rating of the device as described in the electrical rating section of the Procedure; a description of all input/output connections; assembly, location and mounting requirements; supply connection and earthing requirements, ventilation requirements; identification of operating controls, instructions for cleaning, replacement of consumable materials, interconnecting accessories, indication of suitable accessories, instructions for use, technical specifications, name and address of manufacturer or supplier and as statement of range of environmental conditions as noted below. - Indoor use or outdoor use; - Altitude up to 2000 m or above 2000 m if specified by the manufacturer - Temperature 0 to 40°C, or outside this range if specified by the manufacturer. - Maximum relative humidity 80 percent for temperatures up to 31°C decreasing linearly to 50 percent relative humidity at 40°C; - Mains supply voltage fluctuations not to exceed ± 10 percent of the nominal voltage; - Transient overvoltages according to INSTALLATION CATEGORIES (OVERVOLTAGE CATEGORIES) I, II, III and IV. For mains supply the minimum and normal category is II; - POLLUTION DEGREE 1 2, 3 or 4.

TABLE AE1
DETACHABLE POWER SUPPLY CORD REQUIREMENTS

Detachable Power Supply Cord	
Provided	Not Provided
A or B	(C and D) or (C and E)
A. The power supply cord should be as described in the Test Report.	
B. The detachable power supply cord is either: 1. Certified by one of the agencies listed in Table AE3; or 2. Comprised of cordage marked with an agency marking per Table AE3 or marked per Table AE4. The fittings are to be marked with at least one of the agencies listed in Table AE3. Units provided with detachable power supply cords, which are certified by one of the agencies listed in Table AE3 or AE4, shall be considered to be intended for use outside of the USA.	
C. A marking must be provided adjacent to the appliance coupler or at an equivalent location either to inform the user on proper selection of the power supply cord or to see the instruction manual for this information. This marking may be in the form of a tag, nonpermanent label, or product insert that is provided on or packaged with the product so that the marking is visible at the time of installation.	
D. The marking (tag, label, or product insert) or instruction manual must contain complete instructions concerning selection of the power supply cord. It shall include either Option 1, 2, or 3 as follows: 1. Reference to a power supply cord must be as a UL Listed detachable power supply cord consisting of the specific configuration of appliance coupler, the cord type, and the electrical rating of the power supply cord as described in each Test Report. Refer to Table AE2 for equivalent cord types. 2. Reference to a power supply cord may be made to a Listed field installed accessory kit containing a suitable Listed power supply cord. Authorization for use of a Listed field installed accessory kit must be included in the individual Test Reports. 3. Reference to a power supply cord may be made to a cord that is not Listed and not intended for use in the United States or Canada. In this case, the manufacturer is to supply the UL Representative with information to verify that the referenced cord is certified or similarly appropriate for use in the destination country.	
E. The reference to the power supply cord (see Note C) shall include instruction for selection of the proper power supply cord as described in Note B above.	

TABLE AE2
EQUIVALENT CORDS

Basis Cord Type	Equivalent Types
SP-2	SPE-2, SPT-2
SP-3	SPE-3, SPT-3
SV	SVE, SVO, SVOO, SVT, SVTO, SVTOO
SJ	SJE, SJO, SJOO, SJT, SJTO, SJTOO
S	SE, SO, SOO, ST, STO, STOO

TABLE AE3
CERTIFICATION MARKINGS

Country	Cert. Agency	Mark	Country	Cert. Agency	Mark
Argentina	IRAM		Ireland	NSAI	
Australia	SAA		Italy	IMQ	
Austria	OVE		Japan	JET, JQA	
Belgium	CEBEC		Netherlands	KEMA	
Canada	CSA		Norway	NEMKO	
China	CCC		Spain	AEE	
Denmark	DEMKO		Sweden	SEMKO	
Finland	FEI		Switzerland	SEV	
France	UTE		United Kingdom	ASTA	
Germany	VDE			BSI	

TABLE AE4
HAR FLEXIBLE CORDS
APPROVAL ORGANIZATIONS AND CORDAGE HARMONIZATION MARKING METHODS

Approval Organization	Printed or Embossed Harmonization Marking (May be Located On Jacket or Insulation of Internal Wiring)		Alternative Marking Utilizing Black-Red Yellow Thread (Length of color Section, mm)		
Comite Electrotechnique Belge (CEBEC)	CEBEC	<HAR>	10	30	10
Verband Deutscher Elektrotechniker (VDE) e.V. Prufstelle	<VDE>	<HAR>	30	10	10
Union technique de l'Electricite (UTE)	UTE	<HAR>	30	10	30
Instituto Italiano del Marchio di Qualita (IMQ)	IEMMEQU	<HAR>	10	30	50
British Approvals Service for Electric Cables (BASEC)	BASEC	<HAR>	10	10	30
N.V. KEMA	KEMA-KEUR	<HAR>	10	30	30
SEMKO AB Svenska Elektriska materielkontrollanstalter	SEMKO	<HAR>	10	10	50
Österreichischer Verband fur Elektrotechnik (ÖVE)	<ÖVE>	<HAR>	30	10	50
Danmarks Elektriske Materialkontroll (DEMKO)	<DEMKO>	<HAR>	30	10	30
National Standards Authority of Ireland (NSAI)	<NSAI>	<HAR>	30	30	50
Norges Elektriske Materiellkontroll (NEMKO)	NEMKO	<HAR>	10	10	70
Asociacion Electrotecnica Y Electronica Espanola (AEE)	<UNED>	<HAR>	30	10	70
Hellenic Organization for Standardization (ELOT)	ELOT	<HAR>	30	30	70
Instituto Portages da Qualidade (IPQ)	np	<HAR>	10	10	90
Schweizerischer Elektro Technischer Verein (SEV)	SEV	<HAR>	10	30	90
Elektriska Inspektoratet	SETI	<HAR>	10	30	90

PART AF
UL CERTIFICATION MARK

Product Category:	Power Supplies, Medical and Dental - Component
Product Category CCN:	QQHM2 / QQHM8

UL Recognition Mark:

AF1.1	Products Recognized under UL’s Component Recognition Service are identified by marking elements consisting of:
AF1.1.1	The Recognized Company’s identification specified in this document.
AF1.1.2	A catalog, model or other applicable product designation specified in the descriptive sections of this document.
AF1.1.3	The UL Recognized Component Mark shown below.
AF1.2	Only those components, which actually bear the Marking, should be considered as being covered under the Recognition Program. The UL Listing or Classification Mark is not authorized for use on or in connection with Recognized Components.
Recognized Component Mark	
AF2.2	Recognized only to United States safety requirements:
AF2.3	Recognized only to Canadian safety requirements:
AF2.4	Recognized to both U.S. and Canadian safety requirements:
AF2.5	Minimum size of the Recognized Component Mark is not specified as long as it is legible. Minimum height of the registered symbol ® shall be 3/64 inch but may be omitted if it is out of proportion to the Recognized Component Mark or not legible to the naked eye.
AF2.6	The manufacturer may reproduce the Mark electronically. Any decision regarding the acceptability of the manufacturer’s Mark reproduction will be made at the Reviewing Office.

Description

UL TEST REPORT AND PROCEDURE

Standard:	ANSI/AAMI ES60601-1:2005/(R)2012, CSA CAN/CSA-C22.2 NO. 60601-1:14, IEC 60601-1 Edition 3.1 (2012)
Certification Type:	Component Recognition
CCN:	QQHM2 / QQHM8
Product:	Component power supply
Model:	E146893-D1002-1-ULCB
Rating:	Input: 100-240Vac, 50/60Hz, 3.1A Max; Output: See Model Differences & Miscellaneous Enclosure for details
Applicant Name and Address:	XP POWER LLC 15641 Red Hill Ave., Ste. 100 Tustin, CA 97280, USA

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 UL LLC ('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.

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

Prepared by: Bernadette Matsuoka Reviewed by: Melissa DeGuia

Supporting Documentation

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.

Product Description

The product is a component AC-DC power supply for building-in, open frame type provided with a metal chassis, incorporating primary and SELV components.
Refer to the Report Modifications page for any modifications made to this report.

Model Differences

All models in the Model CHD250PSXX-YY Series are identical with exception to the Mains Transformer (T1) and minor secondary components that allow for different output voltage ratings. See below for Model Ratings at 50°C.
Output Ratings:
CHD250PS12: 10.1Vdc to 13.5Vdc, 20.8A Max., 250 W Max.
CHD250PS15: 13.6Vdc to 17Vdc, 16.7A Max. 250 W Max.
CHD250PS18: 17.1Vdc to 21Vdc, 13.9A Max. 250 W Max.
CHD250PS24: 21.1Vdc to 26Vdc, 10.4A Max. 250 W Max.
CHD250PS28: 26.1Vdc to 31Vdc, 8.93A Max. 250 W Max.
CHD250PS33: 31.1Vdc to 33Vdc, 7.58A Max. 250 W Max.
CHD250PS36: 33.1Vdc to 42Vdc, 6.94A Max. 250 W Max.
CHD250PS48: 42.1Vdc to 54Vdc, 5.2A Max. 250 W Max.
See Miscellaneous enclosure Power Output Table for additional information regarding power output and the various configurations.
Suffix "SF" indicates single fuse provided in the line side of the primary.
Units provided with suffix "-C" provided with cover.
Units provided with suffix "-S" provided with screw terminal.
Units provided with suffix "-L" provided with input leads.
Units provided with suffix "-A" provided with 5V Stand-by output rated 5Vdc, 1A.

Additional Information

Marking label is representative of all models.
Licenses older than 3 years to be provided by the manufacturer upon request.
The required clearance values have been assessed for suitability up to 5000 m elevation

The testing was conducted at XP POWER LLC, 1241 E DYER RD, SUITE 150, SANTA ANA, CA 92705, USA. The client moved to 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280 in December 2015 and has been re-audited as an SMT at this location.

Technical Considerations

- The product was investigated to the following additional standards: ANSI/AAMI ES60601-1:2005 (R2012), CSA C22.2 No. 60601-1:2014, EN 60601-1:2006/A1:2013/A12:2014
- The following additional investigations were conducted: None
- The product was not investigated to the following standards or clauses: Electromagnetic

Compatibility (IEC 60601-1-2), Clause 14, Programmable Electronic Systems, Biocompatibility (ISO 10993-1)

- The following accessories were investigated for use with the product: None
- Scope of Power Supply evaluation defers the following clauses to the be determined as part of the end product: Clause 7.5 (Safety Signs), Clause 7.9 (Accompanying Documents), Clause 9 (ME Hazard), Clause 10 Radiation), Clause 14 (PEMS), Clause 16 (ME Systems)
- Scope of Power Supply evaluation excludes the following: Patient applied parts clauses: 4.6, 7.2.10, 8.3, 8.5.2, 8.5.5, 8.7.4.7-8.7.4.9, 8.9.1.15; Battery related clauses: 7.3.3, 15.4.3; Hand Control related clauses: 8.10.4; Oxygen related clauses: 11.2.2, Fluids related clauses: 11.6.2 – 11.6.4, Sterilization clause: 11.6.7, Biocompatibility Clause: 11.7 (ISO 10993), Motor related clauses: 13.2.13.3, 13.4, Heating Elements related clause: 13.2
- The product is evaluated only to the following hazards: Casualty, Fire, Shock
- The degree of protection against harmful ingress of water is: Ordinary
- Software is relied upon for meeting safety requirements related to mechanical, fire and shock: No
- The power supply was evaluated for use in 50°C ambient at Full Rated Output and see Enclosure Miscellaneous for additional ratings and various configurations

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-Secondary: 292 Vrms, 478 Vpk, Primary-Earthed Dead Metal: 240 Vrms, 420 Vpk and for Models CHD250PSXXYY, where XX is 5 to 36, Secondary to Ground at 250Vrms, 354Vpk
- The power supply terminals and/or connectors are: Not investigated for field wiring
- The maximum investigated branch circuit rating is: 20A
- The investigated Pollution Degree is: 2
- Proper bonding to the end-product main protective earthing termination is: Required
- An investigation of the protective bonding terminals has: Not been conducted
- The following input terminals/connectors must be connected to the end-product supply neutral: Input Connector (CON1) N terminal.
- 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): T1, T2, T3, T1-Standby (Class F, 155°C)
- The following end-product enclosures are required: Mechanical, Fire, Electrical
- Suitable disconnect device is to be provided in the end system
- Temperature, Leakage and Dielectric Strength testing shall be considered in the end system
- Printed Wiring Board rated 130°C.
- Heatsinks are floating and considered live. They should not be accessible in the end-product
- Heating test was not conducted on unit with input/output leads. If unit is provided with input and/or output leads, then temperature on leads must be measured and cannot exceed 105°C

- These components have been judged on the basis of the required spacings in the ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10 +A1:2012) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance), CAN/CSA-C22.2 No. 60601-1 (2008) + CSA C22.2 No. 60601-1:2014 (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance), which covers the end-use product for which the component was designed, IEC 60601-1, Edition 3.1, EN 60601-1:2006/A1:2013/A12:2014

- Clearance spacing evaluated for 5000 m altitude. Additional consideration maybe necessary in the end-use product

- Units provided with additional suffix “SF”, provided with only one fuse. The need for additional fusing shall be determined as part of the end product
- The power supplies were evaluated as having 2 MOPP between primary-to-secondary for 292Vrms, 478Vpk, and 1 MOPP between primary-to-ground for 240Vac and 420Vpk. Models CHD250PSXX-YY where XX is 12 to 36 only and were also evaluated for 2 MOPP between secondary to ground for working voltage of 42Vdc and 1 MOPP for a working voltage of 250Vrms between secondary and earth for BF output considerations.

- Overcurrent releases of adequate breaking capacity must be employed in the end product

- The legibility and durability of Marking Test shall be conducted as part of the end product investigation.

Markings and instructions	
Clause Title	Marking or Instruction Details
Company identification	Classified or Recognized company's name, Trade name, Trademark or File
Model	Model number
Serial number or lot or batch identifier	Serial number or lot or batch identifier
Date of manufacture or use by date	Date of manufacture or use by date
Supply Connection	Voltage range, ac/dc, phases if more than single phase
Alternating current	
Direct current	
Direct current and alternating current	
Supply Frequency	Rated frequency range in hertz
Power Input	Amps, VA, or Watts
Output	Rated output voltage, power, frequency.

Special Instructions to UL Representative

None

Production-Line Testing Requirements		
Test Exemptions - The following models are exempt from the indicated test		
Test	Exemption Specifics	Details
Grounding Continuity	The following models are exempt from the indicated test:	CHD250PSXXYY series
Dielectric Voltage Withstand	The following models are exempt from the indicated test:	
Patient Circuit Dielectric Voltage Withstand	The following models are exempt from the indicated test:	CHD250PSXXYY series
Solid-State Components	The following solid-state components may be disconnected from the remainder of the circuitry during either Dielectric Voltage Withstand Test:	CHD250PSXXYY series
Sample and Test Specifics for Follow-Up Tests at UL		

The following tests shall be conducted in accordance with the Generic Inspection Instructions			
Plastic Enclosure or Part	Test	Sample(s)	Test Specifics
None	NA	NA	NA

TABLE: List of Critical Components

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
Bottom Cover – for models with suffix "-C”	Interchangeable	Interchangeable	Metal, L-shaped, overall approx. 14 by 8.8 by 4.3 cm, min. 0.9 mm thick. See Enclosure 4-13 for details.		
Top Cover – for models with suffix "-C”	Interchangeable	Interchangeable	Metal, L-shaped, overall approx. 14 by 8.8by 4.3 cm, min. 0.6 mm thick. Provided with numerous ventilation openings. Secured to Bottom Cover by screws. See Enclosure 4-13 for details.		
Insulator Sheet – for models with suffix “-C”	Formex Inc	Formex GK-10BK	Cover and PWB. Rated min. V-1, 115°C, approx. 136 by 84 mm., min 0.25 mm thick.	UL 94 (QMFZ2 (E121855))	UL
Printed Wiring Board	Interchangeable	Interchangeable	Overall approx. 12.6 by 7.5 cm, min. 2 mm thick. Rated min. V-1, min. 130°C	UL 796 (ZPMV2)	UL
Primary Connector (CON1)	Molex	41791 Series (P/N 26-60-4030)	2 pos. Rated min. 250 V, 7.0 A, 105°C	UL 1977 (ECBT2 (E29179)), CSAC22.2 NO 182.3-M1987	UL, CSA
Terminal Block (CON1) - for Models provided with suffix "-S"	Dinkle Enterprise	EK381V Series (EK381V-03P)	Rated min. 7A, 250V, min. 105°C. May be mounted on top or bottom of PWB.	UL 1054, CSA C22.2 No. 158 (XCFR2,8 (E102914))	UL, cUL, TUV
Primary Connector (CON1) - Alternate	Interchangeable	Interchangeable	Not provided, when provided with Input Leads, (AVLV2), rated min. 18 AWG, min. 60°C, min. VW-1, soldered and mechanically secured through the PWB.	UL 758 (AVLV2)	UL
Input Leads – Optional – For Models with –L suffix	Interchangeable	Interchangeable	When not provided with primary connector or terminal block (CON1), provided with Input Leads, (AVLV2), rated min. 18 AWG, min. 105°C, min. VW-1, soldered and mechanically secured through the PWB.	UL 758 (AVLV2)	UL
Primary Connector (CON1) - Alternate	Interchangeable	Interchangeable	2 pos. Rated min. 250 V, 7.0 A, 105°C	UL 1977 (ECBT2), or UL 498 (RTRT2) or UL 746C (QMFZ2)	UL

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
Fuse (FS1, FS2)	Bel Fuse Inc.	5HFP Series	Rated 5A, min. 250V, min. 125°C. Mounted vertically with leads soldered through Main PWB. Provided with fuse carrier. (IR rating:1500 A at 250 V ac)	UL 248, CSA-C22.2 No. 248 (JDYX2, 8 (E20624)), IEC 60127-2	UL, cUL, VDE
Fuse (FS1, FS2) - Alternate	Littelfuse (Wickmann Werke)	216 Series (0216005XEP)	Rated 5A, min. 250V, min. 125°C, Time Lag (Non-operator replaceable). (IR rating: 1500A at 250Vac)	UL 248-14, CSAC22.2 No. 248.14, ((JDYX2,8(E10480)), IEC 60127-2	UL, cUL, SEMKO
Fuse holder (FS1,FS2)	EI Dupont De Nemours & Co Inc	FR530	Overall approx. 29 by 17.75 by min. 0.8 mm thick. Rated V-0, min. 155°C..	UL 94, (QMFZ2, 8) (E41938))	UL, cUL
Fuseholder (FS1,FS2) - Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Overall approx. 29 by 17.75 by min. 0.8 mm thick. Rated V-0, min. 155°C.	UL 94 (QMFZ2 (E95746))	UL
X-Capacitor (C1)	Xiamen Faratronic Co Ltd	MKP62 Series (Type C42)	Rated max. 0.47 uF, min. 250 V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E186600)), IEC60384-14	UL, cUL, VDE
Capacitor (C5)	Xiamen Faratronic Co Ltd	MKP62 Series (Type C42)	Rated max. 1.5 uF, min. 250 V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E186600)), IEC60384-14	UL, cUL, VDE
X-Capacitor (C6)	Xiamen Faratronic Co Ltd	MKP62 Series (Type C42)	Rated max. 2.2 uF, min. 250 V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E186600)), IEC60384-14	UL, cUL, VDE
X-Capacitor (C6) - Alternate	Epcos/Siemens	B3292 Series	Rated max. 2.2 uF, min. 250 V, marked "X2"	UL 60384-14, CSA E60384-14:09 (FOWX2, 8 (E97863)), IEC60384-14	UL, cUL, VDE
Film Capacitors (C29,C30) (PRI)	Interchangeable	Interchangeable	Rated max. 0.068 uF, min. 400 Vdc.		
Thermistor (TH1)	Epcos OHG	B57236 Series	NTC. Rated 20 Ohm, 25°C min, 2.8A min. steady state current (Not relied upon for safety).	UL 1434, IEC 60730-1:1999+A1:2003, Annex J (XGPU2) (E69802))	UL, cUL
Thermistor (TH1) - Alternate	Interchangeable	Interchangeable	NTC. Rated 20 Ohm, 25°C min, 2.8A min. steady state current (Not relied upon for safety).	UL 1434 (XGPU2), IEC60730, EN60730-1	UL
X-Capacitor (C67,C68)	Vishay Capacitors Belgium N V	338 2 Series	Rated max. 0.1 uF, min. 250V, marked	UL 60384-14, CSA E60384-1:03, CSA	UL, cUL, FI

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
			"X2".	E60384-14:09 ((FOWX2, 8), (E354331)), IEC 60384-14	
X-Capacitor (C67,C68) - Alternate	Kemet Electronics Corp (Evox-Rifa)	PHE840 Series	Rated max. 0.1uF, min. 250V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 ((FOWX2, 8) E73869)), IEC 60384-14	UL, cUL, SEMKO
X-Capacitor (C67,C68) - Alternate	Kemet Electronics Italia SRL	R.46 Series	Rated max. 0.1 uF, min. 250V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2,8(E97797)), IEC60384-14	UL, cUL, VDE
X-Capacitor (C67,C68) - Alternate	Winday Electronic Ind Co Ltd	MPX Series	Rated max. 0.1 uF, min. 250V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2,8 (E302125)), IEC 60834-14	UL, cUL, VDE
Diodes (D1,D2,D23,D24)	Vishay	1N5627GP	Rated min. 800V, min. 3A. Soldered and secured to PWB using Diode Support. See diode support for details		
Diodes (D1,D2,D23,D24)	Interchangeable	Interchangeable	Rated min. 800V, min. 3A. Soldered and secured to PWB using Diode Support. See diode support for details		
Diode Support (D1,D2,D23,D24)	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Overall approx. 28 by 11 by min. 0.8 mm thick. Rated V-0, min. 155°C.	UL 94 (QMFZ2 (E95746))	UL
Diode Support (D1,D2,D23,D24) - Alternate	EI Dupont De Nemours & Co Inc	FR530	Overall approx. 28 by 11 by min. 0.8 mm thick. Rated V-0, min. 155°C.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Y-Capacitor (C4,C45,C76)	Kemet Electronics OY (Evox-Rifa)	ERP610 Series	Rated max. 1000 pF, min. 250 V, marked "Y1".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2,8 (E356389)), IEC60384-14	UL, cUL, VDE
Y-Capacitor (C4,C45,C76) – Alternate	Murata Mfg Co Ltd	KX Series	Rated max. 1000 pF, min. 250 V, marked "Y1".	UL 60384-14, (FOWX2 (E37921)), CAN/CSA-E60384-14:09, IEC 60834-14	UL, CSA, VDE
Y-Capacitor (C4,C45,C76) – Alternate	Vishay Electronic GmbH	VY1 or VKP Series	Rated max. 1000 pF, min. 250 V, marked "Y1".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E183844)), IEC60384-14	UL, cUL, VDE
Electrolytic	Interchangeable	Interchangeable	Rated max 100 uF,		

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
Capacitors (C14,C25,C112,C113) (PRI)			min. 63 V, min. 105°C. Provided with integral pressure relief.		
MOSFET (TR13) (PRI)	ST Microelectronics	STP10NK60Z	Rated min. 600 V, min. 10A, min. 150°C.		
MOSFET (TR13) (PRI) - Alternate	Interchangeable	Interchangeable	Rated min. 600 V, min. 10A, min. 150°C.		
Electrolytic Capacitor (C64) (PRI)	Interchangeable	Interchangeable	Rated max 150 uF, min. 450 V, min. 105°C. Provided with integral pressure relief		
Relay (RL1)	Xiamen Hongfa Electroacoustic Co	HF32F Series (HF32F-012-HSLQ)	Rated min. 12V, min. 10A (Non-isolating).	UL 60947-4-1A, CSA C22.2, No. 60947-4-1 (NLDX2, NLDX8 (E134517)), IEC61810	UL, cUL, TUV
MOSFET (TR2-TR5,TR27,TR28)	Fairchild Semiconductor	IRFB18N50KPBF	Rated min. 600 V, min. 13A, min. 150°C. TR2-TR5 secured to MOSFET Heat Sink by screw, nut and washer.		
MOSFET (TR2-TR5,TR27,TR28) - Alternate	Interchangeable	Interchangeable	Rated min. 600 V, min. 13A, min. 150°C. TR2-TR5 secured to MOSFET Heat Sink by screw, nut and washer.		
MOSFET Heatsink (TR2-TR5) (PRI)	Interchangeable	Interchangeable	Two provided. Aluminum, L-shaped, Overall approx. 33 by 31 by 6.8 by min. 1 mm thick. See Enclosure Diagrams (11) for details.		
Rectifier Diodes (D5,D6) (PRI)	Philips Semiconductors	BYV29 Series	Rated min. 9A, min. 500V. Secured to Rectifier Diode Heatsink using screw, washer, and nut.		
Rectifier Diodes (D5,D6) (PRI) - Alternate	Interchangeable	Interchangeable	Rated min. 9A, min. 500V. Secured to Rectifier Diode Heatsink using screw, washer, and nut.		
Rectifier Diode Heatsink (D5,D6) (PRI)	Interchangeable	Interchangeable	Aluminum, L-shaped, Overall approx. 33 by 31 by min. 1 mm thick. See enclosure Diagrams (12) for details.		
Rectifier Diode Heatsink (D5,D6) (PRI) – for Models with –A suffix	Interchangeable	Interchangeable	Aluminum, L-shaped, Overall approx. 33 by 31 by 18.6 by min. 1 mm thick. Provided with screw opening to secure 5V Stand-by		

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
			PWB.		
Inductor (L1)	XP Power LLC	Interchangeable (100xxxxx where x can be any number between 0 and 9). Construction of Inductor 10016094 represents entire series.	Toroidal. Copper Magnet Wire, (OBMW2), rated min. 130°C, wound on ferrite core. Overall approx. 25 mm dia. by 11 mm wide. See Enclosure Diagrams (01) for details.		
Inductor (L1) Base	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Provided between Inductor L1 and PWB. Overall approx. 25 by 11.6 by min. 1 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Inductor (L1) Base – Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Provided between Inductor L1 and PWB. Overall approx. 25 by 11.6 by min. 1 mm thick	UL 94 (QMFZ2 (E95746))	UL
Inductor (L2)	XP Power LLC	Interchangeable (100xxxxx where x can be any number between 0 and 9). Construction of Inductor 10014243 represents entire series.	Toroidal. Copper Magnet Wire, (OBMW2), rated min. 130°C, wound on ferrite core. Overall approx. 29 mm dia. by 13 mm wide. See Enclosure Diagrams (02) for details.		
Inductor (L2) Base	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Provided between Inductor L1 and PWB. Overall approx. 25 by 15.4 by min. 1 mm thick	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Inductor (L2) Base – Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Provided between Inductor L1 and PWB. Overall approx. 25 by 15.4 by min. 1 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Inductors (PFC) (L3,L4)	XP Power LLC	Interchangeable (100xxxxxwhere x can be any number between 0 and 9. Construction of transformer 10013071 represents the entire series)	Open-type. Concentrically wound magnet wire, (OBWM2), rated min. 130°C. Overall approx. 41 by 26 by 20 mm. Core/Bobbin: See Transformer – Bobbin Material for details. See Enclosure Diagrams (03) for details.		
Inductors (PFC) (L3,L4) - Base	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Provided between Inductor L3,L4	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
			assembly and PWB. L-shaped, overall approx. 43 by 29.5 by min. 1 mm thick.		
Inductors (PFC) (L3,L4) – Base - Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Provided between Inductor L3,L4 assembly and PWB. L-shaped, overall approx. 43 by 29.5 by min. 1 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL, cUL
Inductor (L5)	XP Power LLC	Interchangeable (100xxxxx where x can be any number between 0 and 9. Construction of Inductor 10015645 represents the entire series)	Open-type. Concentrically wound magnet wire, (OBWM2), rated min. 130°C. Overall approx. 20.3 by 18 by 16.5 mm, min. 1 mm thick. Provided with Bobbin Base. See Inductor – Bobbin Base. See Enclosure Diagram (04) for details.	-	Evaluated as part of this investigation
Inductor (L5) – Bobbin	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C, approx. 14.65 by 8.25 by min. 0.5 mm thick.	QMFZ2 (E233198)	UL
Inductor (L5) – Bobbin - Alternate	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Inductor (L5) – Bobbin Base	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C, min. 1 mm thick. See Enclosure Diagram (04) for details.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Inductor (L5) – Bobbin Base - Alternate	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C, min. 1 mm thick. See Enclosure Diagram (04) for details.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Transformer (T1)	XP Power LLC	Interchangeable (100xxxxx where x can be any number between 0 and 9. Construction of Transformer 10013075 represents entire series.)	Open-type. Provided with a Class F insulation system, see Transformer– Insulation System for details. Overall approx. 33 by 27 by 26 mm. Bobbin: Overall approx.16.8 by 11.2 by 11. 2 mm, min. 1.0 mm thick, see Transformer – Bobbin Material for details. See Enclosures Diagrams (06) to (10) and (14) for details.	-	Evaluated as part of this investigation
Transformer (T1) – Insulation System	XP Power LLC	Designated F	Rated 155°C	UL 1446 (OBJY3 (E139109S))	
Transformer – Bobbin	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
Transformer (T1) - Bobbin - Alternate	Sumitomo Bakelite Co Ltd	Sumikon PM9820 & PM9630	Rated V-0, min. 155°C, min. 0.90 mm thick.	Ul 94, UL 746C, QMFZ2 (E41429)	UL
Transformer (T1) - Bobbin - Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Transformer (T1) - Core Washer	Dupont	Nomex 410	Rated V-0, approx. 22.5 mm OD, 12.5 mm ID, min. 0.08 mm thick.	UL 746C, UL 94 (QMFZ2 (E34739))	UL
Transformer (T1) - Insulator Sheet	Dupont	Nomex 410	Rated V-0, approx. 45 by 16 mm, min. 0.08 mm thick.	UL 746C, UL 94 (QMFZ2 (E34739))	UL
Transformer (T1) - Insulating Tape	3M Co	1350	Polyester film tape, min. 2.5 mils thick (Passed 2500 V ac dielectric)	UL 510 (OANZ2 (E17385))	UL
Transformer (T1) – Magnet Wire (Winding 2, 3, 6, and 7)	Interchangeable	Interchangeable	Rated min. 155°C, 0.20 mm, MW80.	UL 1446 (OBMW2)	UL
Transformer (T1) – Triple Insulated Wire (Winding 1, 4, 5 and 8)	Great Leoflon Industrial Co., Ltd	TRW (F)	Reinforced Insulation. Rated 155°C, min. 600 Vpk (Passed 6k Vpk dielectric as part of component evaluation, also passed 10kV dielectric for twist pair test as part of Test Report E146893-A32 report); and suitable for reinforced insulation)	UL 2353 (OBJT2 (E211989))	UL
Transformer (T1) – Triple Insulated Wire (Winding 1, 4, 5 and 8) - Alternate	Kuo Kuang Electronic Wire Co., Ltd	REFU-F	Reinforced Insulation, rated 155°C, min. 600 Vpk (15kV Dielectric test during component evaluation).	UL 2353 (OBJT2 (E222087))	UL
Transformer (T1) – Support	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Overall approx. 32.4 by 30 by 10.5 by min. .090 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Transformer (T1) – Support	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Overall approx. 32.4 by 30 by 10.5 by min. .090 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Transformer (T2, T3)	XP Power	Interchangeable (100xxxxx, where x can be any number between 0 and 9. Construction of Transformer 10013074 represents entire series)	Toroidal. 2 provided. Provided with a Class F insulation system, see Transformer– Insulation System for details. Secured to board using Transformer Base. See enclosure Diagrams	-	-

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
			(11) for details.		
Transformer (T2, T3) – Base	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C. Overall approx. 13 by 12.5 by 18 by min. .090 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Transformer (T2, T3) – Base - Alternate	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C. Overall approx. 13 by 12.5 by 18 by min. .090 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Transformer (T2, T3) – Insulation System	XP Power LLC	Designated F	Rated 155°C	UL 1446 OBJY3 (E139109S)	
Transformer (T2, T3) – Triple Insulated Wire (Winding 2)	Rubadue Wire Co. Inc.	T24A01T090-2	Reinforced Insulation. Rated 155°C,min. 1000 Vpk, 23 AWG (14kV Dielectric test during component evaluation).	UL 2353, (OBJT2 (E206198))	UL
Transformer (T2, T3) – Magnet Wire (Winding 1)	Interchangeable	Interchangeable	Rated 130°C, 0.30 mm, MW80.	UL 1446 (OBMW2)	UL
Optical Isolator (OPT1-OPT4)	Lite-On	LTV-816 Series	Double protection, isolation voltage min. 5000 V. DTI min 0.4mm	UL 1577, CSA Component Acceptance Service No. 5A (FPQU2, 8 (E113898)), IEC 607047-5-2,VDE 0884	UL, cUL, VDE
Optical Isolator (OPT1- OPT4) - Alternate	Renesas Electronics Corp (NEC)	PS2561L-1 Series	Double protection, isolation voltage min. 5000 V. DTI min 0.4mm	UL 1577 (FPQU2 (E72422)), CSA Std. 1, 60950-1,CA5A,E60065, IEC 60950-1, 60065 7th Ed. , IEC 607047-5-2, VDE 0884	UL, CSA, VDE
Optical Isolator (OPT1- OPT4) - Alternate	Vishay Infared Components Inc	SFH6156 Series (Systems H and J)	Double protection, isolation voltage 4420 V. DTI min 0.4mm	UL 1577, CSA Component Acceptance Service No. 5A (FPQU2 (E52744)), IEC 60747-5-2, VDE0884E	UL, cUL, VDE
Y-Capacitor (C110)	Murata Mfg Co Ltd	KX Series	Rated max. 680 pF, min. 250 V, marked "Y1".	UL 60384-14 (FOWX2(E37921)), CSA Std. CAN/CSA-E60384-14:09, IEC60384-14	UL, CSA, VDE
Y-Capacitor (C110) – Alternate	TDK-EPC Corp	CD Series	Rated max. 680 pF, min. 250 V, marked "Y1".	UL 60384-14, CSA E60384-1:03 (FOWX2,8) (E37861)), IEC60384-14,	UL, cUL, VDE
Y-Capacitor (C110) – Alternate	Vishay Electronic GmbH	VY1 or VKP Series	Rated max. 680 pF, min. 250 V, marked "Y1".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E183844)), IEC60384-14	UL, cUL, VDE
Electrolytic Capacitors (SEC)	Interchangeable	Interchangeable	Rated min. 16 V, 105°C. Provided with integral pressure relief.	-	-

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
Output Inductor (L9)	XP Power LLC	Interchangeable (100xxxxx, where x can be any number between 0 and 9. Construction of inductor 10013080 represents the entire series)	Magnet Wire, (OBWM2) min. 105°C, wound on ferrite core. Overall approx. 8 mm dia. by 15.2 mm high. See Enclosure Diagrams (05) for details.	-	Evaluated as part of this investigation
Ceramic Capacitor (C23)	Interchangeable	Interchangeable	Rated max. 0.1 uF, min. 50V.	-	-
MOSFET (TR15, TR16) (SEC)	Interchangeable	Interchangeable	Rated min. 40V, max. 120 A. Secured to output connector (CON2) by screw and nut.	-	-
Output Connector (CON2) (SEC)	Interchangeable	Interchangeable	U-shaped, tin plated brass, overall approx. 31.8 by 13 by 11.4 by min. 1 mm thick. Secured to PWB by solder.	-	-
Output Connector (CON3) (SEC)	Interchangeable	Interchangeable	U-shaped, tin plated brass, overall approx. 15.3 by 13 by 4.5 by min. 1 mm thick. Secured to PWB by solder.	-	-
Output Connector (CON3) (SEC) – for Models with suffix -A	Interchangeable	Interchangeable	U-shaped, tin plated brass, overall approx. 26.85 by 12.8 by 5 by min. 1 mm thick. Secured to PWB by solder.	-	-
Output Connector (CON4) (SEC)	Japan Solderless Terminal Mfg Co Ltd (JST)	PHD Series (B10B-PHDSS(LF)(SN))	Rated min. 7A, min. 250V, min. 105°C.	UL 1977, (ECBT2 (E60389)), C22.2 No. 182.3	UL, CSA
Electrolytic Capacitor (C36, C64, C113)	Interchangeable	Interchangeable	May be provided with optional heat-shrink tubing. See Insulating Tubing/Sleeving for details.	-	-
5V Stand-by - Printed Wiring Board – for Models with suffix -A	Interchangeable	Interchangeable	Overall approx. 6.9 by 3.2 cm, min. 1 mm thick. Rated min. V-1, min. 130°C. Input side secured to Rectifier Diode Heatsink (D5,D6) (PRI) by screw and nut. Output side secured to Output Connector (CON3) (SEC) by solder.	U:L 796 (ZPMV2)	UL
X-Capacitor (C9) - 5V Stand-by	Xiamen Faratronic Co Ltd	MKP62 Series (Type C42)	Rated max. 0.1 uF, min. 250 V, marked "X2".	UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 (FOWX2, 8 (E186600)), IEC60384-	UL, cUL, VDE

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
				14	
Transformer (T1) – 5V Stand-by	XP Power LLC	10015566	Open-type. Provided with a Class F insulation system, see Transformer – Insulation System for details. Overall approx. 17.8 by 16.4 by 11 mm.. See enclosure diagram (15) for details.	-	-
Transformer (T1) – Insulation System - 5V Stand-by	XP Power LLC	Class F	Rated 155°C	UL 1446 (OBJY3 (E139109SP)	
Transformer – Bobbin - 5V Stand-by	EI Dupont De Nemours & Co Inc	FR530	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C, (QMFZ2, 8 (E41938))	UL, cUL
Transformer (T1) - Bobbin – 5V Stand-by - Alternate	Sumitomo Bakelite Co Ltd	Sumikon PM9820 & PM9630	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C (QMFZ2 (E41429))	UL
Transformer (T1) - Bobbin - 5V Stand-by -Alternate	Solvay Specialty Polymers USA L L C (formerly Chevron Phillips Chemical Co)	R-4-230BL (Ryton)	Rated V-0, min. 155°C, min. 0.90 mm thick.	UL 94, UL 746C (QMFZ2 (E95746))	UL
Transformer (T1) – Magnet Wire (Winding 1, 2) - 5V Stand-by	Interchangeable	Interchangeable	Rated min. 155°C, 0.20 mm, MW80.	UL 1446 (OBMW2)	UL
Transformer (T1) – Triple Insulated Wire (Winding 3) - 5V Stand-by	Great Leoflon Industrial Co., Ltd	TRW (F)	Reinforced Insulation. Rated 155°C, min. 600 Vpk(Passed 6k Vpk dielectric as part of component evaluation, also passed 10kV dielectric for twist pair test as part of Test Report E146893-A32 report); and suitable for reinforced insulation)	UL 2353 ((OBJT2 (E211989))	UL
Transformer (T1) – Triple Insulated Wire (Winding 3) - 5V Stand-by - Alternate	Kuo Kuang Electronic Wire Co., Ltd	REFU-F	Reinforced Insulation, rated 155°C, min. 600 Vpk (15kV Dielectric test during component evaluation).	UL 2353 (OBJT2 (E222087))	UL
Transformer (T1) – Outerwrap - 5V Stand-by	3M Co	1350	Polyester film tape, 1mm thick. (Not relied upon for reinforced insulation)	UL 510 OANZ2 (E17385)	UL
Transformer (T1) – Outerwrap - 5V Stand-by - Alternate	Jingjiang Yahua Pressure Sensitive Glue Co Ltd	CT (CT286)	Rated 130°C. Tape Polyester Film, 1mm thick. (Not relied upon for reinforced insulation)	UL 510 (OANZ2 (E165111))	UL

8.10	TABLE: List of critical components				Pass
Component/ Part No.	Manufacturer/ Trademark	Type No./model No./	Technical data	Standard No./ Edition [2]	Mark(s) & Certificates of conformity [1]
Inductor (L1) - 5V Stand-by	XP Power	10015586	Copper Magnet Wire, (OBMW2), rated min. 130°C, wound on ferrite core. Overall approx. 2.6 mm dia. by 15 mm long. See Enclosure Diagrams (16) for details.	-	-
Electrolytic Capacitors - 5V Stand-by	Interchangeable	Interchangeable	Rated min. 16 V, 105°C. Provided with integral pressure relief.	-	-
Insulating Tubing/Sleeving	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; 130 ºC, 240 V	UL 224 (UZFT2, YDPU2, YDRY2, YDTU2)	UL
RTV	Interchangeable	Interchangeable	Rated min. V-2, min. 130°C	UL 746C (QMFZ2)	UL

Supplementary information:

The (CB) Test Laboratory has verified the component information.

1) An asterisk indicates a mark which assures the agreed level of surveillance. See Licenses and Certificates of Conformity for verification.

2) Identify the UL Product Category CCN(s)/File Number in brackets "()" if component is a UL Certified component and this report includes a UL Certification. This is useful for the UL Follow-Up Service Inspection associated with the UL Mark.

-- END OF APPENDIX C --

TEST RESULTS:

APPENDIX D: Test Datasheets Enclosures

The following tests have been performed as part of this report:

Standard	Clause No.	Test Name	Testing Location / Comments
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	4.11	Power Input	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	5.7	Humidity Conditioning	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	8.4.3	Voltage or Charge Limitation	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	8.5.4	Working Voltage Measurements	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	8.7	Leakage Current Tests	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	8.7.4.5	Earth Leakage Current	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	8.8.3	Dielectric Voltage Withstand	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	8.8.4.1	Ball Pressure	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	11	Temperature	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	13	Abnormal Operation Testing	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	15.5.1.2	Transformer Short Circuit	XP POWER LLC, 15641 Red Hill Ave., Ste. 100,

			Tustin, CA 97280, USA
IEC 60601-1: 2005 + CORR. 1:2006 + CORR. 2:2007 + AM1:2012 (or IEC 60601-1: 2012 reprint)	15.5.1.3	Transformer Overload	XP POWER LLC, 15641 Red Hill Ave., Ste. 100, Tustin, CA 97280, USA

NOTE: If testing location is blank then the test was performed at the CB Testing Laboratory as specified at the beginning of this report.

The following datasheet enclosures are provided in this section of the report. If blank, no separate enclosures are attached.

Enclosures

Supplement ID	Description
Datasheets - (03)	: Datasheets

Datasheets - (03) Datasheets

Datasheets - (03) Datasheets

Project No.: 4786824159 UL File No.: E146893

DATA PACKAGE INFORMATION SHEET

Applicant Information	Name / Address:		XP POWER LLC 1241 E DYER RD, SUITE 150 SANTA ANA, CA 92705, USA
Product Information	Standards:		IEC 60601-1:2005 + CORR. 1 (2006) + CORR. 2 (2007) ANSI/AAMI ES60601-1:2005 (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) CAN/CSA C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance)
	CCNs:		QQHM2/QQHM8
	Product:		SWITHCHING POWER SUPPLY
	Models:		CHD250PSXX

Test Location Information	DAP and UL:	[X]	CTDP	[ ]	TCP	[ ]	TPTDP	[ ]	WTDP	[X] UL
	CB Scheme:	[ ]	CBTL	[X]	SMT	[ ]	TMP	[ ]	WMT	

Test Location Information	Test Location Name/Address:		XP POWER LLC, 1241 E DYER RD, SUITE 150, SANTA ANA, CA 92705, USA
	Tests Conducted By**:	Sign	*Rodney Reyes*
		Print	Rodney Reyes
	** When all tests are conducted by one person, the printed name and signature can be inserted here instead of on each page containing data		
	Authorized Signatory or TCP Reviewer:	Sign	*Tac Pham*
		Print	Tac Pham
		Date	2015-02-18, 2015-03-31
	UL WTDP / WMT Witness:	Sign	
		Print	
Reviewed & Accepted By	Qualified Project Handler:	Sign	Bernadette Matsuoka
		Print	Bernadette Matsuoka

Witness Test Data Program (WTDP) Information:

Environment:	
Accommodations and Environmental conditions, including proper power source meet the requirements of the test standard or UL default criteria (ISO/IEC 17025 Clause 5.3.1, 5.3.2, 5.3.3)	[ ]
Equipment	
Testing is being conducted within the test equipment calibration dates. (See Test Instrument Information Page and ISO/IEC 17025 5.6.2.2)	[ ]
Critical Consumables:	
Critical consumables are compliant with test standard requirements. (ISO/IEC 17025 Clause 4.6)	[ ]
Sample Identification:	
Identification of items to be tested has been made (e.g. model no., Serial No., etc.) (See Test Sample Identification page and ISO/IEC 17025 Clause 5.8.2)	[ ]
Summary:	
The test facility was deemed to have the environment and capabilities necessary to perform the tests included in this data package.	[ ]

Datasheets - (03) Datasheets

60601-1 (3rd Edition) Test Datasheet Package - Lists of Tests

Apl. (Yes/No)	Clause No.	Test Name	Test Notes
Yes	4.11	Power Input	
Yes	5.7	Humidity Conditioning	
Yes	8.4.3	Voltage or Charge Limitation	
Yes	8.5.4	Working Voltage Measurements	
Yes	8.7	Leakage Current Tests	
Yes	8.7.4.5	Earth Leakage Current	
	8.7.4.7 b)	Patient Leakage Current, Mains on F-Type AP	
	8.7.4.7 c)	Patient Leakage Current, Mains on I/O	
	8.7.4.7 d)	Patient Leakage Current, Mains on Non-PE Enclosure	
	8.7.4.7 h)	Total Patient Leakage Current	
	8.7.4.8	Patient Auxiliary Current	
Yes	8.8.3	Dielectric Voltage Withstand	
Yes	8.8.4.1	Ball Pressure	
Yes	11	Temperature	
Yes	13	Abnormal Operation Testing	
Yes	15.5.1.2	Transformer Short Circuit	
Yes	15.5.1.3	Transformer Overload	

Datasheets - (03) Datasheets

Project No.: 4786824159 UL File No.: E146893

TEST SAMPLE IDENTIFICATION

The table below is to provide correlation of sample numbers to specific product related information. Refer to this table when a test identifies a test sample by "Sample No." only.

Sample Number	Sample Card Number	Date Received	Storage Location	Manufacturer, Product Identification and Ratings
1	K14160036	2014-06-06	Safety Lab	XP Power LLC, CHD250PS12 Rated Input: 100-240Vac, 50/60Hz, 3.1A Rated Output: 10.1Vdc to 13.5Vdc 12V/20.8A, 5V/0.5A (250W)
2	K14160077	2014-06-06	Safety Lab	XP Power LLC, CHD250PS24 Rated Input: 100-240Vac, 50/60Hz, 3.1A Rated Output: 21.1Vdc to 26Vdc 24V/10.4A, 5V/0.5A (250W)
3	K14190018	2014-06-06	Safety Lab	XP Power LLC, CHD250PS48 Rated Input: 100-240Vac, 50/60Hz, 3.1A Rated Output: 42.1Vdc to 54Vdc 48V/5.2A, 5V/0.5A (250W)
4	10013075	2014-06-06	Safety Lab	T1 Transformer
5	09-65-2038	2014-06-06	Safety Lab	Conn 3 POS 0.156 CTR HEADER VERT LOCK Molex 26-60-4030
6		2014-06-06	Safety Lab	Transformer Bobbin - Ryton R-4 230BL, 1mm thick
7	10015334	2014-06-06	Safety Lab	T1 Standby Transformer
	Sampling Procedure (if used):			

Special Instructions - Unless specified otherwise in the individual Methods, the tests shall be conducted under the following ambient conditions. Confirmation of these conditions shall be recorded at the time the test is conducted.

For 60601-1 3rd edition tests use the 2nd edition values unless the 3rd edition fields are populated. This detail is based on the manufacturer's ACCOMPANYING DOCUMENTS and has been inserted by the project handler/reviewer.

Standard	Ambient Temperature, °C	Relative Humidity, %	Barometric Pressure, hPa or kPa
60065	25 +/- 10	Max 75	Not specified
60601-1 2nd Ed	+10 to +40	30 to 75	700 to 1060 hPA
60601-1 3rd Ed	+40 to +70	93	700 to 1060 hPA
60950	Not specified	Not specified	Not specified
60950-1	Not specified	Not specified	Not specified

TEST INSTRUMENT REFERENCE LIST

The table below is to provide correlation of sample numbers to specific product related information. Refer to this table when a test identifies a test sample by "Sample No." only.

Istr. Code	Intrument I.D.	Instrument Type	Range Used OR ***	Make and Model **	Calibration Date	
					Last	Due
1	T452	AC Power Source	0-300 Vac	Assoc ated Research Mode 1000	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
2	T442	AC Power Source	0-300 Vac	Ca forn a nstruments Mode 5001 X	12/13/2013, 09/18/2014	12/13/2014, 09/18/2015
3	T322	Data Logger	Auto	F uke Hydra Data Logger	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
4	T610	Osc oscope	Auto	Tektronx DOP3034 Phosphor Osc oscope	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
5	T611	Current C amp	Auto	H ok 3284 C amp On AC/DC H Tester	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
6	T436	D fferent a Probe	1/100	Lecroy AP031	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
7	T444	Leakage Tester	0 3-10 M U	S mpson Mode 228	12/26/2013, 08/21/2014	12/26/2014, 08/21/2015
8	T451	Safety Ana yzer	Auto	Assoc Research Mode 8106 Omn a 6	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
9	T427	Barometer	Auto	Dav s Percept on	12/13/2013, 02/10/2015	12/13/2014, 02/10/2015
10	T443	H gh Vo tage Probe	100 Mohm	Tektronx P6015A	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
11	T507	H gh Vo tage Probe	100 Mohm	Tektronx P6015A	12/13/2013, 01/07/2015	12/13/2014, 01/07/2015
12	T424	Power Ana yzer	Auto	V otech PM100 Power Ana yzer	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
13	T453	Heat Chamber	Auto	Thermotron SM-16-3800	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
14	T441	D gta Ca per	0-150mm/0-6 n	D a Ca per	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
15	T457	DC Power Suppy	0-500Vdc/0-5A	HP System Power Suppy 6035A	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016

Datasheets - (03) Datasheets

16	T492	Ba Pressure Apparatus	20N	E D & D	12/26/2013, 09/04/2014	12/26/2014, 09/04/2015
17	T600	Stop Watch	0-60 sec	Se ko 8A20	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
18	T602	H pot Tester	10 kV ac/dc	K kus u TOS5101	12/13/2013, 01/07/2015	12/13/2014, 01/07/2016
19	T489	LCR Meter	Auto	HP LCR Precs on Meter 4284A	12/12/2013, 01/23/2015	12/12/2014, 01/23/2016

Chamber setting(s) < ~~was~~ / were > monitored to ensure that the setting(s) < ~~was~~ / were > stable throughout the test time frame. Any deviations from the setting(s) are noted below.

Date	Test	Instrument Code	Time Period of deviation	Setting(s)
-	-	-	-	-

** Information to be recorded when tests are conducted at a non-UL facility.
*** Refer to specific data sheet for individual scale used.

[ ]	The M &TE used for tests have minimum required accuracy and range/functions, and were calibrated to assure these levels.
[ ]	Test equipment information is recorded on UL's Laboratory Project Management (LPM)/Laboratory Equipment Management (LEM) database. (This statement may be selected only if datasheets are completed electronically at a UL facility)

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	??
Test Date(s):	2014-06-13-2014-10-22	Amb. Temp (°C):	25
Sample No.:	1, 2, 3	Amb. Humid (%):	41
Instrument Code/Range:	1, 5, 9	Amb. Pressure (mBar):	1019
Project No.:	4786824159	UL File No.:	E146893

INPUT TEST ([IEC 60601-1, 3rd Edition, Clause: 4.11]

METHOD:

The unit was operated under the conditions specified in Table 4.11 until the input reached a stable value. The current or power input was measured and recorded for each operating condition.

The input current was measured with a true rms meter. The ratings of the device were compared to the measured values.

[N/A] Power factor was measured as indicated below (to facilitate the determination of whether the product is eligible to have a wattage rating instead of a VA or amperage rating).

PARAMETERS:

Device Voltage Ratings	Device Frequency Ratings	Device Current/Power Ratings	Current/Power Type
100-240 VAC	50/60 Hz	3.1	A

RESULTS:

The measurements and calculations are identified below.

Operating Conditions / Ratings	Set Voltage (V)	Freq. (Hz)	Current (A)	Measured Power (W)	Power (VA / W)	Calculated Power Factor (cosφ)	Remarks	Verdict
CHD250PS12: 12V/20.8A, 5V/1A	90	60	3.0	272.0	270 VA / 272 W	1.007	-	-
CHD250PS12: 12V/20.8A, 5V/1A	100	60	2.7	271.0	270 VA / 271 W	1.004	-	Pass
CHD250PS12: 12V/20.8A, 5V/1A	240	60	1.2	266.0	285.6 VA / 266 W	0.931	-	Pass
CHD250PS12: 12V/20.8A, 5V/1A	264	60	1.2	266.0	316.8 VA / 266 W	0.840	-	-
CHD250PS12: 12V/20.8A, 5V/1A	90	50	3.0	272.0	270 VA / 272 W	1.007	-	-
CHD250PS12: 12V/20.8A, 5V/1A	100	50	2.7	271.0	272 VA / 271 W	0.996	-	Pass
CHD250PS12: 12V/20.8A, 5V/1A	240	50	1.2	265.0	283.2 VA / 265 W	0.936	-	Pass
CHD250PS12: 12V/20.8A, 5V/1A	264	50	1.3	267.0	343.2 VA / 267 W	0.778	-	-
CHD250PS24: 24V/10.4A, 5V/1A	90	60	3.01	270.0	270.9 VA / 270 W	0.997	-	-
CHD250PS24: 24V/10.4A, 5V/1A	100	60	2.7	269.0	270 VA / 269 W	0.996	-	Pass
CHD250PS24: 24V/10.4A, 5V/1A	240	60	1.17	264.0	280.8 VA / 264 W	0.940	-	Pass
CHD250PS24: 24V/10.4A, 5V/1A	264	60	1.21	264.0	319.44 VA / 264 W	0.826	-	-
CHD250PS24: 24V/10.4A, 5V/1A	90	50	3.01	270.0	270.9 VA / 270 W	0.997	-	-
CHD250PS24: 24V/10.4A, 5V/1A	100	50	2.69	269.0	269 VA / 269 W	1.000	-	Pass
CHD250PS24: 24V/10.4A, 5V/1A	240	50	1.17	264.0	280.8 VA / 264 W	0.940	-	Pass
CHD250PS24: 24V/10.4A, 5V/1A	264	50	1.27	265.0	335.28 VA / 265 W	0.790	-	-
CHD250PS48:48V/5.2A, 5V/1A	90	60	3.0	270.0	270 VA / 270 W	1.000	-	-
CHD250PS48:48V/5.2A, 5V/1A	100	60	2.7	269.0	271 VA / 269 W	0.993	-	Pass
CHD250PS48:48V/5.2A, 5V/1A	240	60	1.2	264.0	283.2 VA / 264 W	0.932	-	Pass
CHD250PS48:48V/5.2A, 5V/1A	264	60	1.2	265.0	316.8 VA / 265 W	0.836	-	-
CHD250PS48:48V/5.2A, 5V/1A	90	50	3.0	271.0	270 VA / 271 W	1.004	-	-

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CHD250PS48:48V/5.2A, 5V/1A	100	50	3.0	271.0	302 VA / 271 W	0.897	-	Pass
CHD250PS48:48V/5.2A, 5V/1A	240	50	1.2	265.0	283.2 VA / 265 W	0.936	-	Pass
CHD250PS48:48V/5.2A, 5V/1A	264	50	1.3	266.0	343.2 VA / 266 W	0.775	-	-

SUPPLEMENTARY INFORMATION:

Data above may include voltage measurement takes outside the device ratings for reference purposes. These will be indicated by an N/A Verdict because they are not required to meet the below criteria per this clause.

CRITERIA:

The steady-state measured input of the device shall not exceed the marked rating by more than 10%.

NOTES TO/FROM THE LAB:

None

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Tested By:	Rodney Reyes	Test Verdict:	-
Test Date(s):	2014-07-02-2014-07-07	Amb. Temp (°C):	Not Required
Sample No.:	1	Amb. Humid(%):	Not Required
Instrument Code/Range:	1, 8, 9, 13, 18	Amb. Pressure (mBar):	Not Required
Project No.:	4786824159	UL File No.:	E146893

HUMIDITY PRECONDITIONING TREATMENT: (IEC 60601-1, 3rd Edition, Clause 5.7)

METHOD:

ME EQUIPMENT or its parts was set up completely (or where necessary partially). Covers used during transport and storage were detached. This treatment was applied only to those ME EQUIPMENT parts which were influenced by the climatic conditions that were simulated by the test. Parts that can be detached without the use of a TOOL were detached but are treated simultaneously with the major part. ACCESS COVERS, as specified in the Result's table, that can be opened or detached without the use of a TOOL were opened and detached.

A humidity chamber having relative humidity of 93 +/- 3percent was set to any convenient Temperature T between 20 and 32°C. The unit, before being placed in the chamber was brought to a temperature between T + 4°C and kept at this temperature a minimum of 4 h. Then the sample was placed in the humidity chamber and kept there for the time specified in Table 5.7 (minimum 48 h). During this time the temperature of the air in the chamber was maintained at T ± 2°C.

Immediately after the treatment and while still in the chamber, the sample was subjected to Dielectric Voltage Withstand Test. Then the unit was removed from the chamber, placed in normal environment (temperature approximately T, humidity 45-65%) and at operating temperature, the Leakage Current Test was performed.

[X] Risk Management Process determined ME EQUIPMENT can be exposed to high humidity for extended periods, please modify the above test procedure as indicated as follows: 120 hours @ 40°C, 93% Humidity

[X] Immediately following the humidity preconditioning treatment, the ME equipment was subjected to a repeat of the dielectric withstand and leakage current tests.

RESULTS:

Test Type and Condition	Part Under Test	Remarks	Pre-chamber			Chamber					Post-chamber (Info only)			
			T (°C)	Start Time	Stop Time	Humidity (%)	T (°C)	Start Date & Time	Stop Date & Time	Duration (hrs)	Humidity (%)	T (°C)	Start Time	Stop Time
Humidity test: 120 hrs @ 40°C, 93% Humidity	CHD250PS12	Passed Hipot and Leakage	32	7:00 AM	11:00 AM	93	40	2014-07-02 / 11:00AM	2014-07-07 / 11:00AM	120	45	25	11:05 PM	12:05 PM

SUPPLEMENTARY INFORMATION:

Refer and record Leakage Current and Dielectric Withstand in Tables 8.7 and 8.8.3 respectively for results.

In general all equipment must be kept in the humidity chamber for 48h unless the risk management process suggests a longer period (see clause 5.7 for details).

CRITERIA:

The device shall pass the required Leakage and Dielectric Strength tests.

NOTES TO/FROM THE LAB:

None

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Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-07-02	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid (%):	41
Instrument Code/Range:	2, 4, 9, 10, 11	Amb. Pressure (mBar):	1019
Project No.:	4786824159	UL File No.:	E146893

VOLTAGE OR CHARGE LIMITATION: (IEC 60601-1, 3rd Edition, Clause 8.4.3)

METHOD:

The equipment was operated for 1 min at RATED voltage or at the upper limit of the RATED voltage.

Then the sample was either disconnected from the power source by means of the plug, in which case the test was performed as many times as necessary, up to 10 times, to allow the worst case to be measured or a triggering circuit was used (as specifically noted in the table below) to ensure that disconnection occurred at the peak of the supply voltage waveform.

One second after disconnection the voltage between points specified below was measured and recorded in Table 8.4.3a. A storage oscilloscope with probes having an impedance of at least 100 MΩ or similar high impedance instrument which does not affect the measurement was used for this measurement.

If any value exceeded 60 V, then the stored charge between the points indicated was measured or calculated by any convenient method and added to Table 8.4.3b.

Calculate Residual Stored Charge (µC) = [Capacitance Value (µF)] X [Measured Residual Voltage (V)]

PARAMETERS:

Input Voltage (Vac)	Input Frequency (Hz)
240	60

RESULTS:

											Maximum allowable voltage (V):	60
	Measurements [V]											
Voltage Measured Between:	1	2	3	4	5	6	7	8	9	10	Remarks	Verdict
Line pins 1 and 2	0	0	0	0	0	0	0	0	0	0	Within limits	Pass
Pin 1 and earth pin	0	0	0	0	0	0	2	0	0	0	Within limits	Pass
Pin 2 and earth pin	0	0	0	0	6	0	0	0	4	0	Within limits	Pass
Line pin 1 and enclosure	4	2	0	0	4	2	0	0	0	0	Within limits	Pass
Line pin 2 and enclosure	0	0	0	0	0	0	0	0	0	0	Within limits	Pass

[ ] Voltage exceeds 60 V, Stored Charge was measured:

											Maximum allowable stored charge when measured voltage exceeded 60 V (µC):	45	
	Measurements [µC]												
Charge Measured Between:	1	2	3	4	5	6	7	8	9	10	Remarks		Verdict
Line pins 1 and 2	-	-	-	-	-	-	-	-	-	-	-	-	?
Pin 1 and earth pin	-	-	-	-	-	-	-	-	-	-	-	-	?
Pin 2 and earth pin	-	-	-	-	-	-	-	-	-	-	-	-	?
Line pin 1 and enclosure	-	-	-	-	-	-	-	-	-	-	-	-	?
Line pin 2 and enclosure	-	-	-	-	-	-	-	-	-	-	-	-	?

[ ] Voltage exceeds 60 V, Stored Charge was calculated:

											Maximum allowable stored charge when residual voltage exceeded 60 V (µC):	45	
Location	Measured residual		Time after disconnection			Capacitance value		Calc. stored charge		Remarks			Verdict
Line pins 1 and 2	-	-	-	-	-	-	-	-	-	-	-	-	?
Pin 1 and earth pin	-	-	-	-	-	-	-	-	-	-	-	-	?
Pin 2 and earth pin	-	-	-	-	-	-	-	-	-	-	-	-	?
Line pin 1 and enclosure	-	-	-	-	-	-	-	-	-	-	-	-	?
Line pin 2 and enclosure	-	-	-	-	-	-	-	-	-	-	-	-	?

SUPPLEMENTARY INFORMATION:

The values were calculated using the capacitance and voltage measurements in the formula Q =C*V where C is the capacitance, V is the voltage and the units of Q are Coulombs (in table 8.4.3b the values are to be expressed in micro Coulombs).

CRITERIA:

The highest voltage measurement shall not exceed 60 V.
The charge measurements shall not exceed 45 µC.
The residual stored charge shall not exceed 45 µC.

NOTES TO/FROM THE LAB:

None

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Tested By:	Rodney Reyes	Test Verdict:	-
Test Date(s):	2014-07-02	Amb. Temp (°C):	25
Sample No.:	1, 2, 3	Amb. Humid (%):	42
Instrument Code/Range:	1, 4, 9, 10, 11	Amb. Pressure (mBar):	1019
Project No.:	4786824159	UL File No.:	E146893

WORKING VOLTAGE MEASUREMENT: (IEC 60601-1, 3rd Edition, Clause 8.5.4)

METHOD:

The unit was operated at RATED voltage or at the upper limit of the RATED voltage. The voltage at the measurement points was recorded in the table below.
r.m.s measurement was made for non-d.c. voltage and peak-to-peak ripple measurement was made for d.c. voltage.

PARAMETERS:

Input Voltage (Vac)	Input Frequency (Hz)
240	60

RESULTS:

Location From/ To (Insulation Diagram Designation)	Measured Voltage (Vrms)	Measured Voltage (Vpk or Vdc)	Measured Peak-to-peak ripple (V)	Required Creepage (mm)	Required Clearance (mm)	Meas. Creep. (mm)	Meas. Clear. (mm)	Remarks
A: Line to Neutral	242	344	-	-	-	-	-	12V/20.8A, 5V/1A
B: Line to Ground	242	344	-	-	-	-	-	12V/20.8A, 5V/1A
C: Pri to Secondary	292	478	-	-	-	-	-	12V/20.8A, 5V/1A
D: Second. to Gnd	-	12 Vdc	0.180	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 1 to 6	226	268	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 9 to 11	12	15	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 10 to 12	12	15	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 13 to 15	13	14	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 14 to 16	13	15	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 1 to 9	186	390	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 1 to 10	186	392	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 1 to 11	188	392	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 1 to 12	186	392	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 1 to 13	186	392	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 1 to 14	186	392	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 1 to 15	188	391	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 1 to 16	186	396	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 6 to 9	289	475	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 6 to 10	171	453	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 6 to 11	171	396	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 6 to 12	280	453	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 6 to 13	273	453	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 6 to14	282	466	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 6 to 15	264	441	-	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 6 to 16	292	478	-	-	-	-	-	12V/20.8A, 5V/1A
T2 Pin 1 to 2	1	9	-	-	-	-	-	12V/20.8A, 5V/1A
T2 Pin 3 to 4	2	11	-	-	-	-	-	12V/20.8A, 5V/1A
T2 Pin 1 to 3	168	260	-	-	-	-	-	12V/20.8A, 5V/1A
T2 Pin 1 to 4	167	258	-	-	-	-	-	12V/20.8A, 5V/1A
T2 Pin 2 to 3	94	258	-	-	-	-	-	12V/20.8A, 5V/1A
T2 Pin 2 to 4	167	257	-	-	-	-	-	12V/20.8A, 5V/1A
T3 Pin 1 to 2	1	9	-	-	-	-	-	12V/20.8A, 5V/1A
T3 Pin 3 to 4	0.74	4	-	-	-	-	-	12V/20.8A, 5V/1A
T3 Pin 1 to 3	68	323	-	-	-	-	-	12V/20.8A, 5V/1A
T3 Pin 1 to 4	70	324	-	-	-	-	-	12V/20.8A, 5V/1A
T3 Pin 2 to 3	131	323	-	-	-	-	-	12V/20.8A, 5V/1A
T3 Pin 2 to 4	119	323	-	-	-	-	-	12V/20.8A, 5V/1A
T1-A Pin 1 to 2-SB	25	78	-	-	-	-	-	12V/20.8A, 5V/1A
T1-B Pin 3 to 4-SB	100	468	-	-	-	-	-	12V/20.8A, 5V/1A
T1-C Pin 1 to 2-SB	6	33	-	-	-	-	-	12V/20.8A, 5V/1A

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T1-A Pin 1 to 1-SB	165	284	-	-	-	-	12V/20.8A, 5V/1A
T1-A Pin 1 to 2-SB	167	284	-	-	-	-	12V/20.8A, 5V/1A
T1 Pin 2 to 1-SB	158	272	-	-	-	-	12V/20.8A, 5V/1A
T1-A Pin 2 to 2-SB	181	312	-	-	-	-	12V/20.8A, 5V/1A
T1-A Pin 3 to 1-SB	172	324	-	-	-	-	12V/20.8A, 5V/1A
T1-A Pin 3 to 2-SB	175	328	-	-	-	-	12V/20.8A, 5V/1A
T1-A Pin 4 to 1-SB	180	308	-	-	-	-	12V/20.8A, 5V/1A
T1-A Pin 4 to 2-SB	128	224	-	-	-	-	12V/20.8A, 5V/1A
OPT1 Pin 1 to 2	162	283	-	-	-	-	12V/20.8A, 5V/1A
OPT1 Pin 3 to 4	169	292	-	-	-	-	12V/20.8A, 5V/1A
OPT2 Pin 1 to 2	165	288	-	-	-	-	12V/20.8A, 5V/1A
OPT2 Pin 3 to 4	143	252	-	-	-	-	12V/20.8A, 5V/1A
OPT3 Pin 1 to 2	130	240	-	-	-	-	12V/20.8A, 5V/1A
OPT3 Pin 3 to 4	146	268	-	-	-	-	12V/20.8A, 5V/1A
OPT4 Pin 1 to 2	147	263	-	-	-	-	12V/20.8A, 5V/1A
OPT4 Pin 3 to 4	168	284	-	-	-	-	12V/20.8A, 5V/1A
			-	-	-	-	-
A: Line to Neutral	242	344	-	-	-	-	24V/10.4, 5V/1A
B: Line to Ground	242	344	-	-	-	-	24V/10.4, 5V/1A
D: Second. to Gnd	-	24 Vdc	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 1 to 6	218	252	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 3 to 7	28	33	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 9 to 11	24	28	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 10 to 12	24	28	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 13 to 15	12	15	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 14 to 16	12	15	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 1 to 9	164	380	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 1 to 10	150	336	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 1 to 11	156	354	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 1 to 12	156	354	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 1 to 13	149	340	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 1 to 14	150	336	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 1 to 15	151	352	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 1 to 16	161	368	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 6 to 9	126	244	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 6 to 10	127	252	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 6 to 11	126	244	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 6 to 12	126	244	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 6 to 13	127	252	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 6 to14	126	244	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 6 to 15	126	252	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 6 to 16	126	244	-	-	-	-	24V/10.4, 5V/1A
T2 Pin 1 to 2	1	9	-	-	-	-	24V/10.4, 5V/1A
T2 Pin 3 to 4	2	11	-	-	-	-	24V/10.4, 5V/1A
T2 Pin 1 to 3	168	260	-	-	-	-	24V/10.4, 5V/1A
T2 Pin 1 to 4	167	258	-	-	-	-	24V/10.4, 5V/1A
T2 Pin 2 to 3	94	258	-	-	-	-	24V/10.4, 5V/1A
T2 Pin 2 to 4	167	257	-	-	-	-	24V/10.4, 5V/1A
T3 Pin 1 to 2	1	9	-	-	-	-	24V/10.4, 5V/1A
T3 Pin 3 to 4	0.74	4	-	-	-	-	24V/10.4, 5V/1A
T3 Pin 1 to 3	68	323	-	-	-	-	24V/10.4, 5V/1A
T3 Pin 1 to 4	70	324	-	-	-	-	24V/10.4, 5V/1A
T3 Pin 2 to 3	131	323	-	-	-	-	24V/10.4, 5V/1A
T3 Pin 2 to 4	119	323	-	-	-	-	24V/10.4, 5V/1A
T1-A Pin 1 to 2-SB	25	78	-	-	-	-	24V/10.4, 5V/1A
T1-B Pin 3 to 4-SB	100	468	-	-	-	-	24V/10.4, 5V/1A
T1-C Pin 1 to 2-SB	6	33	-	-	-	-	24V/10.4, 5V/1A

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T1-A Pin 1 to 1-SB	165	284	-	-	-	-	24V/10.4, 5V/1A
T1-A Pin 1 to 2-SB	167	284	-	-	-	-	24V/10.4, 5V/1A
T1 Pin 2 to 1-SB	158	272	-	-	-	-	24V/10.4, 5V/1A
T1-A Pin 2 to 2-SB	181	312	-	-	-	-	24V/10.4, 5V/1A
T1-A Pin 3 to 1-SB	172	324	-	-	-	-	24V/10.4, 5V/1A
T1-A Pin 3 to 2-SB	175	328	-	-	-	-	24V/10.4, 5V/1A
T1-A Pin 4 to 1-SB	180	308	-	-	-	-	24V/10.4, 5V/1A
T1-A Pin 4 to 2-SB	128	224	-	-	-	-	24V/10.4, 5V/1A
OPT1 Pin 1 to 2	162	283	-	-	-	-	24V/10.4, 5V/1A
OPT1 Pin 3 to 4	169	292	-	-	-	-	24V/10.4, 5V/1A
OPT2 Pin 1 to 2	165	288	-	-	-	-	24V/10.4, 5V/1A
OPT2 Pin 3 to 4	143	252	-	-	-	-	24V/10.4, 5V/1A
OPT3 Pin 1 to 2	130	240	-	-	-	-	24V/10.4, 5V/1A
OPT3 Pin 3 to 4	146	268	-	-	-	-	24V/10.4, 5V/1A
OPT4 Pin 1 to 2	147	263	-	-	-	-	24V/10.4, 5V/1A
OPT4 Pin 3 to 4	168	284	-	-	-	-	24V/10.4, 5V/1A
			-	-	-	-	-
A: Line to Neutral	242	344	-	-	-	-	48V/5.2A, 5V/1A
B: Line to Ground	242	344	-	-	-	-	48V/5.2A, 5V/1A
D: Second. to Gnd	-	48 Vdc	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 1 to 6	215	316	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 3 to 7	27	35	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 9 to 11	47	57	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 10 to 12	47	62	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 13 to 15	12	21	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 14 to 16	12	16	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 1 to 9	169	388	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 1 to 10	144	328	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 1 to 11	156	364	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 1 to 12	156	364	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 1 to 13	143	320	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 1 to 14	170	384	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 1 to 15	146	324		-	-	-	48V/5.2A, 5V/1A
T1 Pin 1 to 16	167	380	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 6 to 9	127	256	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 6 to 10	128	260	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 6 to 11	126	248	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 6 to 12	126	248	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 6 to 13	129	272	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 6 to14	127	264	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 6 to 15	128	264	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 6 to 16	127	252	-	-	-	-	48V/5.2A, 5V/1A
T2 Pin 1 to 2	1	9	-	-	-	-	48V/5.2A, 5V/1A
T2 Pin 3 to 4	2	11	-	-	-	-	48V/5.2A, 5V/1A
T2 Pin 1 to 3	168	260	-	-	-	-	48V/5.2A, 5V/1A
T2 Pin 1 to 4	167	258	-	-	-	-	48V/5.2A, 5V/1A
T2 Pin 2 to 3	94	258	-	-	-	-	48V/5.2A, 5V/1A
T2 Pin 2 to 4	167	257	-	-	-	-	48V/5.2A, 5V/1A
T3 Pin 1 to 2	1	9	-	-	-	-	48V/5.2A, 5V/1A
T3 Pin 3 to 4	0.7	5	-	-	-	-	48V/5.2A, 5V/1A
T3 Pin 1 to 3	68	323	-	-	-	-	48V/5.2A, 5V/1A
T3 Pin 1 to 4	70	324	-	-	-	-	48V/5.2A, 5V/1A
T3 Pin 2 to 3	131	323	-	-	-	-	48V/5.2A, 5V/1A
T3 Pin 2 to 4	119	323	-	-	-	-	48V/5.2A, 5V/1A
T1-A Pin 1 to 2-SB	25	78	-	-	-	-	48V/5.2A, 5V/1A
T1-B Pin 3 to 4-SB	100	468	-	-	-	-	48V/5.2A, 5V/1A
T1-C Pin 1 to 2-SB	6	33	-	-	-	-	48V/5.2A, 5V/1A
T1-A Pin 1 to 1-SB	165	284	-	-	-	-	48V/5.2A, 5V/1A
T1-A Pin 1 to 2-SB	167	284	-	-	-	-	48V/5.2A, 5V/1A
T1 Pin 2 to 1-SB	158	272	-	-	-	-	48V/5.2A, 5V/1A
T1-A Pin 2 to 2-SB	181	312	-	-	-	-	48V/5.2A, 5V/1A
T1-A Pin 3 to 1-SB	172	324	-	-	-	-	48V/5.2A, 5V/1A
T1-A Pin 3 to 2-SB	175	328	-	-	-	-	48V/5.2A, 5V/1A
T1-A Pin 4 to 1-SB	180	308	-	-	-	-	48V/5.2A, 5V/1A

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T1-A Pin 4 to 2-SB	128	224	-	-	-	-	48V/5.2A, 5V/1A
OPT1 Pin 1 to 2	162	283	-	-	-	-	48V/5.2A, 5V/1A
OPT1 Pin 3 to 4	169	292	-	-	-	-	48V/5.2A, 5V/1A
OPT2 Pin 1 to 2	165	288	-	-	-	-	48V/5.2A, 5V/1A
OPT2 Pin 3 to 4	143	252	-	-	-	-	48V/5.2A, 5V/1A
OPT3 Pin 1 to 2	130	240	-	-	-	-	48V/5.2A, 5V/1A
OPT3 Pin 3 to 4	146	268	-	-	-	-	48V/5.2A, 5V/1A
OPT4 Pin 1 to 2	147	263	-	-	-	-	48V/5.2A, 5V/1A
OPT4 Pin 3 to 4	168	284	-	-	-	-	48V/5.2A, 5V/1A

SUPPLEMENTARY INFORMATION:

The following information from the Standard is provided for reference purposes:

The WORKING VOLTAGE for each MEANS OF PROTECTION shall be determined as follows:

– The input supply voltage to the ME EQUIPMENT shall be the RATED voltage or the voltage within the RATED voltage range which results in the highest measured value.

– For d.c. voltages with superimposed ripple, the WORKING VOLTAGE is the average value if the peak to peak ripple does not exceed 10 % of the average value or the peak voltage if the peak to peak ripple exceeds 10 % of the average value.

– The WORKING VOLTAGE for each MEANS OF PROTECTION forming DOUBLE INSULATION is the voltage to which the DOUBLE INSULATION as a whole is subjected.

– For WORKING VOLTAGE involving a PATIENT CONNECTION not connected to earth, the situation in which the PATIENT is earthed (intentionally or accidentally) is regarded as a NORMAL CONDITION.

– The WORKING VOLTAGE between the PATIENT CONNECTION(S) of an FTYPE APPLIED PART and the ENCLOSURE is taken as the highest voltage appearing across the insulation in NORMAL USE including earthing of any part of the APPLIED PART. See also 8.5.2.1.

– For DEFIBRILLATIONPROOF APPLIED PARTS, the WORKING VOLTAGE is determined without regard to the possible presence of defibrillation voltages. See also 8.5.5 and 8.9.1.15.

– In the case of motors provided with capacitors where a resonance voltage can occur between the point where a winding and a capacitor are connected together on the one hand and any terminal for external conductors on the other hand, the WORKING VOLTAGE shall be equal to the resonance voltage.

CRITERIA:

None

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

	Test Verdict: PASS
Project No.: 4786824159	UL File No.: E146893

LEAKAGE CURRENT TEST: (IEC 60601-1, 3rd Edition, Clause 8.7)

METHOD:

A. Measuring Condition:

- Testing was conducted after thermal stabilization and was repeated following Humidity Preconditioning. Following the humidity conditioning (see Humidity Conditioning Test for further details), the equipment was located in an environment with a temperature approximately equal to t where t is the temperature of the humidity cabinet and a relative humidity between 45% and 65% and was conducted 1 hour after the end of the humidity preconditioning treatment.
- In Normal Condition and in the specified Single Fault Conditions (8.7.2)
- With the Equipment energized in stand-by and fully operating and with any switch in the Mains Part in any position.
- With the equipment connected to a supply source with the highest rated supply frequency and 110% of the highest rated Mains Voltage as indicated in the RESULTS table.

B. The measuring supply circuit was connected to the indicated supply mains: (see 8.7.4.2)

[X] Annex F, Fig. F.1 - Supply circuit with one side of the supply at ground potential.

[ ] Annex F, Fig. F.2 - Supply circuit symmetrical to ground potential.

[ ] Annex F, Fig. F.3 - Supply Circuit for polyphase equipment specified for connection to a polyphase Supply Mains.

[ ] Annex F, Fig. F.4 - Supply Circuit for single phase equipment specified for connection to a polyphase Supply Mains. (Center Tap Leakage-DO NOT USE SWITCH BOX)

[ ] Annex F, Fig. F.5 - Supply Circuit for ME equipment having a separate power supply unit or intended to receive its power from another equipment in an ME system.

Measurements which do not energize the equipment were made first.

C. Connection of Equipment to the Measuring Supply Circuit:

[ ] Equipment provided with a Power Supply Cord - Tested using the cord provided.

[ ] Equipment provided with an Appliance Inlet - Use Detachable power supply cord having a length of 3 M or Type , Length as specified by manufacturer.

[X] Equipment specified for Permanent Installation - Tested while connected to the supply via the shortest possible connection.

D. Measuring Arrangement:

The supply circuit and each measuring circuit were positioned as far as possible from unscreened power supply leads.

External parts of the Applied Parts, including Patient cords, were placed on an insulating surface with a dielectric constant of approximately 1 (e.g. expanded polystyrene) and approximately 200 mm above an earthed metal surface.

E. Measuring Device (MD) and Instrument:

[ ] The leakage current tests are conducted using a modified Measuring Device (MD). The MD as shown in Fig. 12 was used without the 10 kΩ resistor (R1) and 0.015 µf capacitor (C1). This is used to satisfy the testing within clause 8.7.3 e) and is also used for all other leakage testing to replace the MD identified in Fig. 12. If any of the leakage results are above the limits specified in clause 8.7.3 a) through d) using this modified MD then they are to be repeated using the MD specified in Fig. 12 and a separate Datasheet('Non-Frequency-Weighted Leakage Current') shall identify the test results for the 1 kOhm MD only.

[X] The Measuring Device (MD) shown in Fig. 12 was used. It consisted of a 1 kΩ resistor (R2) in parallel of a 10 kΩ resistor (R1) which is in series with a 0.015 µf capacitor (C1).

The measuring instrument had an impedance of approximately 1 MΩ or more for frequencies from d.c. up and including 1 MHz. It shall indicate the true r.m.s. value of the voltage across the MD. Review Clause 8.7.4.4 for appropriate Measuring Device (MD).

[ ] A suitably rated oscilloscope with probe having an impedance > 1 MΩ was used. The capacitance of the measuring device and its connecting leads to earth and to the body of the equipment was kept as low as possible.

All recorded leakage current measurements were in microamperes unless otherwise specified.

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RESULTS:

The following Table is a summary of all the Leakage Current testing performed, identifying the maximum measurements for all switch positions. Refer to the individual Leakage Current test for additional details.

Test Type	Figure	Cond.	Supply Voltage (V)	Supply Freq. (Hz)	Max Meas. (uA a.c.)	Max Meas. (uA d.c.)	Max Limit (uA a.c.) [B, BF /	CF]	Max Limit (uA d.c.) [B, BF /	CF]	Remarks	Verdict
Earth Leakage Current	13	NC	264	60	174.8	-	5,000		-		-	Pass
		SFC	264	60	345.3	-	10,000		-		-	Pass
Touch Leakage Current	14	NC	264	60	0.0	0.0	100		100		-	?
		SFC	264	60	0.0	0.0	500		500		-	?
Patient Leakage Current	15	NC	264	60	0.0	0.0	100	10	10		-	?
		SFC	264	60	0.0	0.0	500	50	50		-	?
Patient Leakage Current (Voltage on AP)	16	NC	-	-	-	-	-		-		N/A - No NC Tests	N/A
		SFC	264	60	0.0	0.0	5,000	50	5,000	50	-	?
Patient Leakage Current (Voltage on SIP/SOP)	17	NC	264	60	0.0	0.0	100	10	10		-	?
		SFC	264	60	0.0	0.0	500	50	50		-	?
Patient Leakage Current (Voltage on Accessible Part)	18	NC	-	-	-	-	-		-		N/A - No NC Tests	N/A
		SFC	264	60	0.0	0.0	500		500		-	?
Patient Auxiliary Leakage Current	19	NC	264	60	0.0	0.0	100	10	10		-	?
		SFC	264	60	0.0	0.0	500	50	50		-	?
Total Patient Leakage Current (Same AP Tied Together)	15 & 20	NC	264	60	0.0	0.0	500	50	50		-	?
		SFC	264	60	0.0	0.0	1,000	100	100		-	?
Total Patient Leakage Current (Voltage on AP)	16 & 20	NC	-	-	-	-	-		-		N/A - No NC Tests	N/A
		SFC	264	60	0.0	0.0	5,000	100	5,000	100	-	?
Total Patient Leakage Current (Voltage on SIP/SOP)	17 & 20	NC	264	60	0.0	0.0	500	50	50		-	?
		SFC	264	60	0.0	0.0	1,000	100	100		-	?
Total Patient Leakage Current (Voltage on Accessible Part)	18 & 20	NC	-	-	-	-	-		-		N/A - No NC Tests	N/A
		SFC	264	60	0.0	0.0	1,000		1,000		-	?

SUPPLEMENTARY INFORMATION:

Abbreviations used:

ER - Earth leakage current	A - After humidity conditioning
TC - Touch (leakage) current	B - Before humidity conditioning
P - Patient leakage current	1 - Switch closed or set to normal polarity
PM - Patient leakage current with mains on the applied parts	0 - Switch open or set to reversed polarity
PSM - Patient leakage current with mains on SIP/SOPS	NC - Normal condition
PA - Patient auxiliary current	SFC - Single fault condition
TPL – Touch Patient Leakage Current	AA - After Abnormal
IP - Internally powered leakage current	S1 - Mains neutral conductor
MD - Measuring device	S5 - Mains polarity
Fig. 12 - Refers to Fig. 12 in IEC 60601-1 (8.7.3)	S7 - Protective Earth Conductor
	S9 - Mains on patient polarity
	S12 - Grounded patient leads

CRITERIA:

Measured leakage currents shall be within the specified limits.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-07-02-2014-07-07	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid (%):	41
Instrument Code/Range:	1, 8, 9	Amb. Pressure (mBar):	10
Project No.:	4786824159	UL File No.:	E146893

EARTH LEAKAGE CURRENT TEST (IEC 60601-1, 3rd Edition, CLAUSE: 8.7.4.5)

METHOD:

The equipment was connected to the indicated voltage and frequency. Earth leakage current was measured through the indicated Figure of IEC 60601-1.

[X] Fig. 13 - Class I equipment with or without an Applied Part.

[ ] Switch S12 was connected between earth and F-Type Applied Part ______________.

[ ] Equipment has more than one Protective Conductor (i.e. one connected to the main enclosure and one to a separate power supply unit), the current was the aggregate current that follow into the protective earthing system of the installation.

[ ] Fixed equipment that can have connections to earth through the building structure, Earth Leakage Current was measured per test procedure specified by manufacturer______________.

[ ] Switch S10 was connected between earth and the Functional Earth Terminal.

PARAMETERS:

Supply Voltage	Supply Frequency	Operating Conditions
264	60	No load

RESULTS:

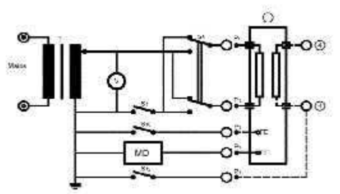
Switch Positions (NC)			NC: S1=1 Measured uA				SFC: S1=0 Measured uA				Remark
			Before		After		Before		After		
S5	S10	S12	AC	DC	AC	DC	AC	DC	AC	DC	
0	0	0	153.90	-	174.70	-	302.40	-	343.00	-	-
0	0	1	-	-	-	-	-	-	-	-	-
0	1	0	-	-	-	-	-	-	-	-	-
0	1	1	-	-	-	-	-	-	-	-	-
1	0	0	155.20	-	174.80	-	302.80	-	345.30	-	-
1	0	1	-	-	-	-	-	-	-	-	-
1	1	0	-	-	-	-	-	-	-	-	-
1	1	1	-	-	-	-	-	-	-	-	-

[ ] The following Leakage Current tests were performed, in addition to those referenced above. (NOTE: This can be used for devices that are mains connected and internally powered, deviced with external power source using switches S2 & S3 from Fig. F.5, etc.).

Type of Leakage Current and Test Condition	Supply Voltage (V)	Supply Frequency (Hz)	Condition (NC/SFC)	Measured Max. Value AC (uA)	Measured Max. Value DC (uA)	Remarks
-	-	-	-	-	-	-
-	-	-	-	-	-	-

SUPPLEMENTARY INFORMATION:

For Battery Operated only equipment, the neutral condctor and S1 not used; S1=1 above indicates NC and S1=0 is not used in this case.
Refer to the Leakage Current Summary for a summary of the maximum measurements for this test and verdict results.



NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-07-02	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid (%):	40
Instrument Code/Range:	9, 18	Amb. Pressure (mBar):	1018
Project No.:	4786824159	UL File No.:	E146893

DIELECTRIC VOLTAGE WITHSTAND: (IEC 60601-1, 3rd Edition, Clause 8.8.3)

METHOD:

The equipment was brought to the steady state operating temperature reached during the Normal Temperature Test. Initially not more than 50 percent of the test voltage was applied. The test voltage was raised to its full value within a period of 10 s. The test voltage was held at full value for 1 min. The test voltage was lowered over a period of 10 s to less than 50 percent of the full value.

Alternatively, a d.c. test voltage equal to the peak value of the a.c. test voltage may be used.

During the test, breakdown constitutes a failure. Insulation breakdown is considered to have occurred when the current which flows as a result of the application of the test voltage rapidly increases in an uncontrolled manner, that is, the insulation does not restrict the flow of the current. Corona discharge or a single momentary flashover is not regarded
as insulation breakdown.

Where an ENCLOSURE or part of ENCLOSURE consists of nonconductive surfaces, metal foil is applied. Care is taken that the metal foil is positioned in such a manner that flashover does not occur at the edges of insulation linings. If applicable, the metal foil is moved so as to test all parts of the surface.

The circuits on either side of the insulation under test should be connected or short circuited such that components within these circuits do not get stressed during the test. For example, the terminals of the MAINS PART, the SIGNAL INPUT/OUTPUT PART and the PATIENT CONNECTION(S) (if applicable) respectively are short circuited during the test.

Where there are capacitors across the insulation under test (e.g. radiofrequency filter capacitors), they may be disconnected during the test, if they are certified to IEC 60384-14.

[X] Dielectric test was repeated immediately following the Humidity pre-conditioning test.

[ ] Dielectric test was repeated immediately following Sterilization test.

[X] Dielectric test was repeated immediately following Abnormal Operation and Single Fault Conditions test.

RESULTS:

Insulation under Test (Area from Insulation Diagram)	Insulation Type (1 or 2 MOOP /MOPP)	Reference Voltage		Test Voltage (Vrms or Vdc)	Dielectric breakdown before 1 min. (Yes/No)	Remark	Verdict
		Peak Working Voltage (U) Vpeak	Peak Working Voltage (U) Vdc				
Line to Neutral	BOP	344	-	-	-	-	-
Primary to Ground	1 MOPP	344	-	1973 Vrms	No	After Humidity	Pass
Primary to Secondary	2 MOPP	475	-	4343Vrms	No	After Humidity	Pass
Secondary to Ground	1 MOPP	-	12 Vdc	1500 Vrms	No	After Humidity	Pass
Primary to Ground	1 MOPP	344	-	1973 Vrms	No	After Abnormals	Pass
Primary to Secondary	2 MOPP	475	-	4343 Vrms	No	After Abnormals	Pass
Primary to Secondary	2 MOPP	475	-	4343 Vrms	No	After Abnormals	Pass
Secondary to Ground	1 MOPP	-	12 Vdc	1500 Vrms	No	After Abnormals	Pass

SUPPLEMENTARY INFORMATION:

None

CRITERIA:

There shall be no indication of dielectric breakdown.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-06-07	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid (%):	41
Instrument Code/Range:	9, 13, 16	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

BALL PRESSURE: (IEC 60601-1, 3rd Edition, Clause 8.8.4.1)

METHOD:

A sample of each insulating material indicated in the table was tested using the test apparatus shown in Fig. 21 of IEC 60601-1, 3rd Edition. (In this apparatus, a steel ball of 5 mm diameter exerts a force of 20 N when pressed against a surface). The apparatus and a fire (or sand) brick were placed in an air-circulating oven. Once the apparatus and brick attained the oven temperature, the sample was placed in the oven on top of the brick. The steel ball was then positioned such that the apparatus was balanced on the surface of the sample. After 1 h, it was removed and the diameter of the impression made by the ball was measured.

[ ] Enclosures and Other External Insulating Parts (cl. 8.8.4.1.a) – The oven temperature was higher of either 75°C ± 2°C or the sum of the specified ambient and the temperature rise of relevant part during the Temperature Test;

[X] Insulating Parts supports uninsulated Mains Parts (cl. 8.8.4.1.b) – The oven temperature was higher of either 125°C ± 2°C or the sum of the specified ambient and the temperature rise of relevant part during the Temperature Test;

RESULTS:

Part/Material	Test temperature (°C)	Impression diameter (mm)	Remarks	Verdict
Enclosure/External insulating parts	-	-	-	-
Conn 3 POS 0.156 CTR HEADER VERT LOCK-Molex 26-60-4030	125	1.12	Impression was less than 2mm.	Pass
Transformer Bobbin - Ryton R-4-230BL, 1mm thick	125	0.9	Impression was less than 2mm.	Pass
Insulating material supporting insulated Mains Parts	-	-	-	-

SUPPLEMENTARY INFORMATION:

None

CRITERIA:

The results shall be less than or equal to 2 mm.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-06-13	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ______________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] ____in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ______________________________________

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS12: 12V/20.8A (250W) Convection		CHD250PS12: 12V/20.8A (250W) Convection		CHD250PS12: 12V/20.8A (250W) Convection		CHD250PS12: 12V/20.8A (250W) Convection		CHD250PS12: 12V/18.1A (217W) Convection with Cover		CHD250PS12: 12V/18.1A (217W) Convection with Cover		Remarks (Including Insulation class and Classification of Individual Insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				50		50		50		50		50		50			
Test ambient temp t_a (°C):				50		50		50		50		50		50			
Supply Voltage (V):				90 VAC		100 VAC		240 VAC		264 VAC		90 VAC		264 VAC			
Supply Frequency (Hz):				50		50		50		50		50		50			
Duty Cycle (s on, s off):				-		-		-		-		-		-			
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs		2 hrs		2 hrs			
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c(°C)	Meas. tm (°C)	Corr. t_c(°C)	Meas. tm (°C)	Corr. t_c(°C)	Meas. tm (°C)	Corr. t_c(°C)	Meas. tm (°C)	Corr. t_c(°C)	Meas. tm (°C)	Corr. t_c(°C)		
1	1	TAMBIENT	50.0	50	50.0	50	50.0	50	50.0	50	50.0	50	50.0	50	50.0		Pass
1	2	FS1 BODY	125.0	103	103.0	91	91.0	68	68.0	70	70.0	95	95.0	72	72.0		Pass
1	3	L1 COIL	130.0	108	108.0	95	95.0	70	70.0	73	73.0	98	98.0	74	74.0		Pass
1	4	L2 COIL	130.0	115	115.0	104	104.0	79	79.0	81	81.0	112	112.0	86	86.0		Pass
1	5	C64 BODY	105.0	88	88.0	83	83.0	71	71.0	73	73.0	92	92.0	79	79.0		Pass
1	6	OPTO 1 BODY	105.0	87	87.0	85	85.0	79	79.0	80	80.0	91	91.0	81	81.0		Pass
1	7	PCB @ TR5,D5	130.0	111	111.0	105	105.0	85	85.0	85	85.0	124	124.0	95	95.0		Pass
1	8	D24 BODY	140.0	120	120.0	112	112.0	87	87.0	89	89.0	127	127.0	96	96.0		Pass
1	9	L4 COIL	130.0	113	113.0	108	108.0	86	86.0	86	86.0	121	121.0	93	93.0		Pass
1	10	L3 COIL	130.0	109	109.0	104	104.0	85	85.0	86	86.0	113	113.0	90	90.0		Pass
1	11	L5 COIL	130.0	111	111.0	109	109.0	105	105.0	106	106.0	109	109.0	102	102.0		Pass
1	12	PCB @ TR27	130.0	100	100.0	98	98.0	95	95.0	96	96.0	96	96.0	92	92.0		Pass
1	13	T1 COIL	130.0	105	105.0	104	104.0	101	101.0	103	103.0	105	105.0	101	101.0		Pass
1	14	T1 CORE	130.0	98	98.0	94	94.0	91	91.0	93	93.0	107	107.0	102	102.0		Pass
1	15	T2 BODY	130.0	100	100.0	98	98.0	92	92.0	94	94.0	97	97.0	90	90.0		Pass
1	16	T3 BODY	130.0	92	92.0	90	90.0	85	85.0	86	86.0	88	88.0	82	82.0		Pass
1	17	C34 BODY	105.0	97	97.0	96	96.0	92	92.0	93	93.0	94	94.0	88	88.0		Pass
1	18	L9 COIL	130.0	104	104.0	103	103.0	100	100.0	101	101.0	98	98.0	94	94.0		Pass
1	19	PBC @ TR16	130.0	111	111.0	104	104.0	108	108.0	109	109.0	95	95.0	92	92.0		Pass
1	20	CON1 BODY	105.0	76	76.0	71	71.0	60	60.0	61	61.0	75	75.0	63	63.0		Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected ($t_m - t_a$ + 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.

Thermal cutouts shall not operate.

Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-03-16, 2015-03-25	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ____________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] _____in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ______________________________

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS12: 12V/10.4A (125W) Convection		CHD250PS12: 12V/10.4A (125W) Convection		CHD250PS12: 12V/9.05A (109W) Convection with Cover		CHD250PS12: 12V/9.05A (109W) Convection with Cover		CHD250PS12: 12V/16.67A (200W) Convection		CHD250PS12: 12V/16.67A (200W) Convection		Remarks (Including Insulation class and Classification of Individual Insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				70		70		70		70		70		70			
Test ambient temp t_a (°C):				70		70		70		70		70		70			
Supply Voltage (V):				90 VAC		264 VAC		90 VAC		264 VAC		90 VAC		264 VAC			
Supply Frequency (Hz):				50		50		50		50		50		50			
Duty Cycle (s on, s off):				-		-		-		-		-		-			
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs		2 hrs		2 hrs			
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	70.0	70	70.0	70	70.0	70	70.0	70	70.0	70	70.0	70	70.0		Pass
1	2	F51 BODY	125.0	87	87.0	81	81.0	88	88.0	83	83.0	84	84.1	70	69.6		Pass
1	3	L1 COIL	130.0	89	89.0	83	83.0	90	90.0	85	85.0	89	89.2	73	73.4		Pass
1	4	L2 COIL	130.0	95	95.0	88	88.0	100	100.0	92	92.0	100	99.7	83	83.3		Pass
1	5	C64 BODY	105.0	87	87.0	85	85.0	92	92.0	87	87.0	81	80.8	75	74.6		Pass
1	6	OPTO 1 BODY	105.0	87	87.0	84	84.0	90	90.0	87	87.0	92	92.0	85	85.2		Pass
1	7	PCB @ TR5,D5	130.0	98	98.0	93	93.0	107	107.0	99	99.0	101	101.4	85	84.9		Pass
1	8	D24 BODY	140.0	101	101.0	94	94.0	108	108.0	99	99.0	109	108.6	89	88.8		Pass
1	9	L4 COIL	130.0	100	100.0	90	90.0	106	106.0	94	94.0	104	104.2	86	85.5		Pass
1	10	L3 COIL	130.0	97	97.0	89	89.0	101	101.0	93	93.0	108	107.7	86	86.3		Pass
1	11	L5 COIL	130.0	96	96.0	95	95.0	98	98.0	97	97.0	106	106.4	105	105.0		Pass
1	12	PCB @ TR27	130.0	93	93.0	92	92.0	95	95.0	93	93.0	100	99.5	98	98.2		Pass
1	13	T1 COIL	130.0	92	92.0	92	92.0	96	96.0	94	94.0	108	108.0	109	109.0		Pass
1	14	T1 CORE	130.0	89	89.0	88	88.0	97	97.0	95	95.0	109	108.9	108	108.1		Pass
1	15	T2 BODY	130.0	91	91.0	90	90.0	94	94.0	91	91.0	99	99.0	93	92.7		Pass
1	16	T3 BODY	130.0	89	89.0	87	87.0	92	92.0	89	89.0	96	95.8	88	87.5		Pass
1	17	C34 BODY	105.0	88	88.0	87	87.0	90	90.0	88	88.0	99	98.6	98	98.1		Pass
1	18	L9 COIL	130.0	90	90.0	89	89.0	91	91.0	90	90.0	100	100.0	103	103.0		Pass
1	19	PBC @ TR16	130.0	92	92.0	91	91.0	92	92.0	91	91.0	107	107.2	110	110.0		Pass
1	20	CON1 BODY	105.0	79	79.0	77	77.0	81	81.0	79	79.0	96	95.5	85	84.8		Pass

SUPPLEMENTARY INFORMATION: Test at 200W-70C represents entire series.

Where:

t_m = measured temperature

t_c = t_m corrected (t_m-t_a+ 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.
Thermal cutouts shall not operate.
Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-06-23 - 2014-06-27	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid(%):	40
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ________________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] _____in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ____

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS12: 12V/20.8A, 5V/1A (255W) Convection with 5V Standby		CHD250PS12: 12V/20.8A, 5V/1A (255W) Convection with 5V Standby		CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover		CHD250PS12: 12V/13.33A, 5V/1A (165W) Convection with 5V Standby and Cover						Remarks (Including Insulation class and Classification of Individual Insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				50		50		50		50							
Test ambient temp t_a (°C):				50		50		50		50							
Supply Voltage (V):				90 VAC		264 VAC		90 VAC		264 VAC		-		-			
Supply Frequency (Hz):				50		50		50		50							
Duty Cycle (s on, s off):				-		-		-		-							
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs							
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	50.0	50	50.0	50	50.0	50	50.0	50	50.0						Pass
1	2	FS1 BODY	125.0	98	98.0	67	67.0	80	80.0	70	70.0						Pass
1	3	L1 COIL	130.0	98	98.0	72	72.0	84	84.0	72	72.0						Pass
1	4	L2 COIL	130.0	107	107.0	81	81.0	96	96.0	83	83.0						Pass
1	5	C64 BODY	105.0	89	89.0	75	75.0	82	82.0	77	77.0						Pass
1	6	OPTO 1 BODY	105.0	97	97.0	87	87.0	81	81.0	76	76.0						Pass
1	7	PCB @ TR5,D5	130.0	104	104.0	85	85.0	104	104.0	92	92.0						Pass
1	8	D24 BODY	140.0	118	118.0	91	91.0	107	107.0	94	94.0						Pass
1	9	L4 COIL	130.0	114	114.0	92	92.0	107	107.0	93	93.0						Pass
1	10	L3 COIL	130.0	121	121.0	93	93.0	103	103.0	91	91.0						Pass
1	11	L5 COIL	130.0	105	105.0	99	99.0	95	95.0	91	91.0						Pass
1	12	PCB @ TR27	130.0	98	98.0	94	94.0	88	88.0	85	85.0						Pass
1	13	T1 COIL	130.0	117	117.0	113	113.0	91	91.0	89	89.0						Pass
1	14	T1 CORE	130.0	113	113.0	109	109.0	93	93.0	90	90.0						Pass
1	15	T2 BODY	130.0	118	118.0	110	110.0	98	98.0	93	93.0						Pass
1	16	T3 BODY	130.0	112	112.0	101	101.0	97	97.0	91	91.0						Pass
1	17	C34 BODY	105.0	102	102.0	97	97.0	86	86.0	83	83.0						Pass
1	18	L9 COIL	130.0	93	93.0	90	90.0	82	82.0	80	80.0						Pass
1	19	PBC @ TR16	130.0	105	105.0	102	102.0	89	89.0	87	87.0						Pass
1	20	CON1 BODY	105.0	82	82.0	62	62.0	68	68.0	62	62.0						Pass
1	21	T1 COIL-5B	130.0	110	110.0	102	102.0	94	94.0	89	89.0						Pass
1	22	T1 CORE-5B	130.0	104	104.0	95	95.0	93	93.0	88	88.0						Pass
1	23	C7 BODY-5B	105.0	97	97.0	92	92.0	77	77.0	75	75.0						Pass
1	24	L1 COIL-5B	130.0	105	105.0	85	85.0	83	83.0	81	81.0						Pass
1	25	C14 BODY-5B	105.0	105	105.0	94	94.0	100	100.0	91	91.0						Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected ($t_m - t_a$ + 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.

Thermal cutouts shall not operate.

Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-06-23 - 2014-06-27	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid(%):	40
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ______________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] ____in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ____

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS12: 12V/10.4A, 5V/0.5A (127.5W) Convection with 5V Standby		CHD250PS12: 12V/10.4A, 5V/0.5A (127.5W) Convection with 5V Standby		CHD250PS12: 12V/6.67A, 5V/0.5A (82.5W) Convection with 5V Standby and Cover		CHD250PS12: 12V/6.67A, 5V/0.5A (82.5W) Convection with 5V Standby and Cover						Remarks (Including insulation class and Classification of individual insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				70		70		70		70							
Test ambient temp t_a (°C):				70		70		70		70							
Supply Voltage (V):				90 VAC		264 VAC		90 VAC		264 VAC		-		-			
Supply Frequency (Hz):				50		50		50		50							
Duty Cycle (s on, s off):				-		-		-		-							
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs							
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	70.0	70	70.0	70	70.0	70	70.0	70	70.0						Pass
1	2	F51 BODY	125.0	85	85.0	81	81.0	86	86.0	83	83.0						Pass
1	3	L1 COIL	130.0	88	88.0	84	84.0	88	88.0	85	85.0						Pass
1	4	L2 COIL	130.0	96	96.0	91	91.0	96	96.0	92	92.0						Pass
1	5	C64 BODY	105.0	90	90.0	89	89.0	90	90.0	88	88.0						Pass
1	6	OPTO 1 BODY	105.0	92	92.0	88	88.0	89	89.0	86	86.0						Pass
1	7	PCB @ TR5,D5	130.0	98	98.0	93	93.0	104	104.0	99	99.0						Pass
1	8	D24 BODY	140.0	103	103.0	95	95.0	104	104.0	99	99.0						Pass
1	9	L4 COIL	130.0	101	101.0	92	92.0	103	103.0	97	97.0						Pass
1	10	L3 COIL	130.0	105	105.0	96	96.0	101	101.0	95	95.0						Pass
1	11	L5 COIL	130.0	96	96.0	94	94.0	96	96.0	95	95.0						Pass
1	12	PCB @ TR27	130.0	94	94.0	93	93.0	94	94.0	92	92.0						Pass
1	13	T1 COIL	130.0	100	100.0	98	98.0	94	94.0	93	93.0						Pass
1	14	T1 CORE	130.0	98	98.0	97	97.0	94	94.0	93	93.0						Pass
1	15	T2 BODY	130.0	102	102.0	99	99.0	98	98.0	96	96.0						Pass
1	16	T3 BODY	130.0	100	100.0	96	96.0	97	97.0	95	95.0						Pass
1	17	C34 BODY	105.0	93	93.0	91	91.0	90	90.0	89	89.0						Pass
1	18	L9 COIL	130.0	89	89.0	88	88.0	87	87.0	86	86.0						Pass
1	19	PBC @ TR16	130.0	93	93.0	92	92.0	91	91.0	90	90.0						Pass
1	20	CON1 BODY	105.0	100	100.0	78	78.0	80	80.0	79	79.0						Pass
1	21	T1 COIL-5B	130.0	97	97.0	97	97.0	94	94.0	92	92.0						Pass
1	22	T1 CORE-5B	130.0	93	93.0	94	94.0	94	94.0	92	92.0						Pass
1	23	C7 BODY-5B	105.0	89	89.0	91	91.0	86	86.0	84	84.0						Pass
1	24	L1 COIL-5B	130.0	96	96.0	87	87.0	89	89.0	87	87.0						Pass
1	25	C14 BODY-5B	105.0	96	96.0	91	91.0	99	99.0	95	95.0						Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected ($t_m - t_a + 40$ °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.

Thermal cutouts shall not operate.

Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-10-27-2014-11-04	Amb. Temp (°C):	25
Sample No.:	2	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ________________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] ____in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ____

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS24: 24V/10.4A (250W) Convection		CHD250PS24: 24V/10.4A (250W) Convection		CHD250PS24: 24V/10.4A (250W) Convection		CHD250PS24: 24V/10.4A (250W) Convection		CHD250PS24: 24V/9.04A (217W) Convection with Cover		CHD250PS24: 24V/9.04A (217W) Convection with Cover		Remarks (Including Insulation class and Classification of Individual Insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				50		50		50		50		50		50			
Test ambient temp t_a (°C):				50		50		50		50		50		50			
Supply Voltage (V):				90 VAC		100 VAC		240 VAC		264 VAC		90 VAC		264 VAC			
Supply Frequency (Hz):				50		50		50		50		50		50			
Duty Cycle (s on, s off):				-		-		-		-		-		-			
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs		2 hrs		2 hrs			
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	50.0	50	50.0	50	50.0	50	50.0	50	50.0	50	50.0	50	50.0		Pass
1	2	FS1 BODY	125.0	91	91.0	83	83.0	65	65.0	66	66.0	86	86.0	68	68.0		Pass
1	3	L1 COIL	130.0	99	99.0	90	90.0	69	69.0	70	70.0	93	93.0	72	72.0		Pass
1	4	L2 COIL	130.0	111	111.0	105	105.0	79	79.0	79	79.0	109	109.0	84	84.0		Pass
1	5	C64 BODY	105.0	82	82.0	79	79.0	70	70.0	71	71.0	88	88.0	76	76.0		Pass
1	6	OPTO 1 BODY	105.0	87	87.0	86	86.0	72	72.0	72	72.0	84	84.0	75	75.0		Pass
1	7	PCB @ TR5,D5	130.0	108	108.0	104	104.0	84	84.0	84	84.0	118	118.0	94	94.0		Pass
1	8	D24 BODY	140.0	119	119.0	113	113.0	86	86.0	86	86.0	122	122.0	95	95.0		Pass
1	9	L4 COIL	130.0	103	103.0	100	100.0	79	79.0	77	77.0	107	107.0	85	85.0		Pass
1	10	L3 COIL	130.0	113	113.0	110	110.0	83	83.0	82	82.0	118	118.0	92	92.0		Pass
1	11	L5 COIL	130.0	105	105.0	104	104.0	101	101.0	102	102.0	102	102.0	96	96.0		Pass
1	12	PCB @ TR27	130.0	91	91.0	90	90.0	88	88.0	88	88.0	89	89.0	85	85.0		Pass
1	13	T1 COIL	130.0	103	103.0	102	102.0	99	99.0	99	99.0	99	99.0	95	95.0		Pass
1	14	T1 CORE	130.0	104	104.0	103	103.0	100	100.0	100	100.0	99	99.0	95	95.0		Pass
1	15	T2 BODY	130.0	99	99.0	98	98.0	84	84.0	83	83.0	98	98.0	90	90.0		Pass
1	16	T3 BODY	130.0	95	95.0	94	94.0	78	78.0	77	77.0	96	96.0	85	85.0		Pass
1	17	C34 BODY	105.0	84	84.0	83	83.0	77	77.0	77	77.0	84	84.0	79	79.0		Pass
1	18	L9 COIL	130.0	82	82.0	82	82.0	79	79.0	79	79.0	80	80.0	77	77.0		Pass
1	19	PBC @ TR16	130.0	90	90.0	89	89.0	89	89.0	88	88.0	87	87.0	84	84.0		Pass
1	20	CON1 BODY	105.0	71	71.0	68	68.0	59	59.0	59	59.0	71	71.0	61	61.0		Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected (t_m–t_a+ 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.

Thermal cutouts shall not operate.

Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-11-05	Amb. Temp (°C):	25
Sample No.:	2	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ______________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] ____in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ____

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS24: 24V/5.2A (125W) Convection		CHD250PS24: 24V/5.2A (125W) Convection		CHD250PS24: 24V/4.52A (109W) Convection with Cover		CHD250PS24: 24V/4.52A (109W) Convection with Cover						Remarks (Including Insulation class and Classification of Individual Insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				70		70		70		70							
Test ambient temp t_a (°C):				70		70		70		70							
Supply Voltage (V):				90 VAC		264 VAC		90 VAC		264 VAC		-		-			
Supply Frequency (Hz):				50		50		50		50							
Duty Cycle (s on, s off):				-		-		-		-							
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs							
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	70.0	70	70.0	70	70.0	70	70.0	70	70.0						Pass
1	2	FS1 BODY	125.0	84	84.0	80	80.0	82	82.0	86	86.0						Pass
1	3	L1 COIL	130.0	87	87.0	82	82.0	84	84.0	89	89.0						Pass
1	4	L2 COIL	130.0	96	96.0	89	89.0	91	91.0	98	98.0						Pass
1	5	C64 BODY	105.0	87	87.0	85	85.0	88	88.0	91	91.0						Pass
1	6	OPTO 1 BODY	105.0	88	88.0	84	84.0	84	84.0	88	88.0						Pass
1	7	PCB @ TR5,D5	130.0	99	99.0	92	92.0	96	96.0	106	106.0						Pass
1	8	D24 BODY	140.0	103	103.0	93	93.0	96	96.0	107	107.0						Pass
1	9	L4 COIL	130.0	96	96.0	86	86.0	89	89.0	99	99.0						Pass
1	10	L3 COIL	130.0	101	101.0	91	91.0	94	94.0	105	105.0						Pass
1	11	L5 COIL	130.0	95	95.0	94	94.0	95	95.0	97	97.0						Pass
1	12	PCB @ TR27	130.0	90	90.0	89	89.0	90	90.0	92	92.0						Pass
1	13	T1 COIL	130.0	92	92.0	91	91.0	91	91.0	92	92.0						Pass
1	14	T1 CORE	130.0	93	93.0	93	93.0	92	92.0	92	92.0						Pass
1	15	T2 BODY	130.0	93	93.0	91	91.0	92	92.0	93	93.0						Pass
1	16	T3 BODY	130.0	92	92.0	88	88.0	90	90.0	95	95.0						Pass
1	17	C34 BODY	105.0	85	85.0	84	84.0	85	85.0	94	94.0						Pass
1	18	L9 COIL	130.0	84	84.0	83	83.0	84	84.0	87	87.0						Pass
1	19	PBC @ TR16	130.0	87	87.0	87	87.0	87	87.0	88	88.0						Pass
1	20	CON1 BODY	105.0	78	78.0	76	76.0	78	78.0	80	80.0						Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected (t_m–t_a+ 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.

Thermal cutouts shall not operate.

Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-11-06	Amb. Temp (°C):	25
Sample No.:	2	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ______________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] ____in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ____

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250P524: 24V/10.4A, 5V/1A (255W) Convection with 5V Stdby		CHD250P524: 24V/10.4A, 5V/1A (255W) Convection with 5V Stdby		CHD250P524: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby		CHD250P524: 24V/6.67A, 5V/1A (165W) Convection with Cover and 5V Stdby						Remarks (Including Insulation class and Classification of Individual Insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				50		50		50		50							
Test ambient temp t_a (°C):				50		50		50		50							
Supply Voltage (V):				90 VAC		264 VAC		90 VAC		264 VAC		-		-			
Supply Frequency (Hz):				50		50		50		50							
Duty Cycle (s on, s off):				-		-		-		-							
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs							
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	50.0	50	50.0	50	50.0	50	50.0	50	50.0						Pass
1	2	FS1 BODY	125.0	85	85.0	66	66.0	87	87.0	67	67.0						Pass
1	3	L1 COIL	130.0	92	92.0	70	70.0	94	94.0	72	72.0						Pass
1	4	L2 COIL	130.0	105	105.0	82	82.0	107	107.0	83	83.0						Pass
1	5	C64 BODY	105.0	79	79.0	71	71.0	81	81.0	75	75.0						Pass
1	6	OPTO 1 BODY	105.0	88	88.0	79	79.0	90	90.0	81	81.0						Pass
1	7	PCB @ TR5,D5	130.0	104	104.0	86	86.0	106	106.0	92	92.0						Pass
1	8	D24 BODY	140.0	113	113.0	90	90.0	115	115.0	92	92.0						Pass
1	9	L4 COIL	130.0	105	105.0	86	86.0	107	107.0	89	89.0						Pass
1	10	L3 COIL	130.0	114	114.0	92	92.0	117	117.0	95	95.0						Pass
1	11	L5 COIL	130.0	99	99.0	95	95.0	102	102.0	98	98.0						Pass
1	12	PCB @ TR27	130.0	85	85.0	83	83.0	88	88.0	86	86.0						Pass
1	13	T1 COIL	130.0	97	97.0	94	94.0	100	100.0	96	96.0						Pass
1	14	T1 CORE	130.0	99	99.0	97	97.0	101	101.0	99	99.0						Pass
1	15	T2 BODY	130.0	106	106.0	99	99.0	108	108.0	102	102.0						Pass
1	16	T3 BODY	130.0	101	101.0	93	93.0	103	103.0	95	95.0						Pass
1	17	C34 BODY	105.0	87	87.0	82	82.0	89	89.0	84	84.0						Pass
1	18	L9 COIL	130.0	81	81.0	78	78.0	84	84.0	81	81.0						Pass
1	19	PBC @ TR16	130.0	85	85.0	83	83.0	89	89.0	85	85.0						Pass
1	20	CON1 BODY	105.0	70	70.0	60	60.0	72	72.0	63	63.0						Pass
1	21	T1 COIL-5B	130.0	107	107.0	99	99.0	110	110.0	101	101.0						Pass
1	22	T1 CORE-5B	130.0	77	77.0	70	70.0	80	80.0	73	73.0						Pass
1	23	C6 BODY-5B	105.0	83	83.0	80	80.0	85	85.0	82	82.0						Pass
1	24	L1 COIL-5B	130.0	81	81.0	79	79.0	84	84.0	80	80.0						Pass
1	25	C14 BODY-5B	125.0	109	109.0	95	95.0	112	112.0	97	97.0						Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected ($t_m - t_a$ + 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.

Thermal cutouts shall not operate.

Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-11-07-2014-11-11	Amb. Temp (°C):	25
Sample No.:	2	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in __________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] ____ in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] ____ in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ____________________________

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS24: 24V/5.2A, 5V/0.5A (127.5W) Convection with 5V Stdby		CHD250PS24: 24V/5.2A, 5V/0.5A (127.5W) Convection with 5V Stdby		CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby		CHD250PS24: 24V/3.33A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby						Remarks (Including insulation class and Classification of individual insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				70		70		70		70							
Test ambient temp t_a (°C):				70		70		70		70							
Supply Voltage (V):				90 VAC		264 VAC		90 VAC		264 VAC		-		-			
Supply Frequency (Hz):				50		50		50		50							
Duty Cycle (s on, s off):				-		-		-		-							
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs							
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	70.0	70	70.0	70	70.0	70	70.0	70	70.0						Pass
1	2	F51 BODY	125.0	84	84.0	81	81.0	84	84.0	81	81.0						Pass
1	3	L1 COIL	130.0	87	87.0	83	83.0	87	87.0	83	83.0						Pass
1	4	L2 COIL	130.0	98	98.0	93	93.0	98	98.0	93	93.0						Pass
1	5	C64 BODY	105.0	90	90.0	87	87.0	90	90.0	87	87.0						Pass
1	6	OPTO 1 BODY	105.0	88	88.0	85	85.0	88	88.0	85	85.0						Pass
1	7	PCB @ TR5,D5	130.0	105	105.0	99	99.0	105	105.0	99	99.0						Pass
1	8	D24 BODY	140.0	106	106.0	99	99.0	106	106.0	99	99.0						Pass
1	9	L4 COIL	130.0	101	101.0	95	95.0	101	101.0	95	95.0						Pass
1	10	L3 COIL	130.0	107	107.0	97	97.0	107	107.0	97	97.0						Pass
1	11	L5 COIL	130.0	96	96.0	94	94.0	96	96.0	94	94.0						Pass
1	12	PCB @ TR27	130.0	91	91.0	90	90.0	91	91.0	90	90.0						Pass
1	13	T1 COIL	130.0	92	92.0	91	91.0	92	92.0	91	91.0						Pass
1	14	T1 CORE	130.0	93	93.0	92	92.0	93	93.0	92	92.0						Pass
1	15	T2 BODY	130.0	99	99.0	97	97.0	99	99.0	97	97.0						Pass
1	16	T3 BODY	130.0	98	98.0	95	95.0	98	98.0	95	95.0						Pass
1	17	C34 BODY	105.0	89	89.0	87	87.0	89	89.0	87	87.0						Pass
1	18	L9 COIL	130.0	85	85.0	84	84.0	85	85.0	84	84.0						Pass
1	19	PBC @ TR16	130.0	87	87.0	86	86.0	87	87.0	86	86.0						Pass
1	20	CON1 BODY	105.0	79	79.0	78	78.0	79	79.0	78	78.0						Pass
1	21	T1 COIL-5B	130.0	100	100.0	97	97.0	100	100.0	97	97.0						Pass
1	22	T1 CORE-5B	130.0	84	84.0	81	81.0	87	87.0	84	84.0						Pass
1	23	C6 BODY-5B	105.0	87	87.0	86	86.0	88	88.0	86	86.0						Pass
1	24	L1 COIL-5B	130.0	86	86.0	86	86.0	88	88.0	87	87.0						Pass
1	25	C14 BODY-5B	105.0	101	101.0	96	96.0	103	103.0	98	98.0						Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected (t_m–t_a+ 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.
Thermal cutouts shall not operate.
Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-10-21, 2014-10-22	Amb. Temp (°C):	25
Sample No.:	3	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ____________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] ____in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ________________________________

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS48: 48V/5.2A (250W) Convection		CHD250PS48: 48V/5.2A (250W) Convection		CHD250PS48: 48V/5.2A (250W) Convection		CHD250PS48: 48V/5.2A (250W) Convection		CHD250PS48: 48V/4.52A (217W) Convection with Cover		CHD250PS48: 48V/4.52A (217W) Convection with Cover		Remarks (Including insulation class and Classification of individual insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				50		50		50		50		50		50			
Test ambient temp t_a (°C):				50		50		50		50		50		50			
Supply Voltage (V):				90 VAC		100 VAC		240 VAC		264 VAC		90 VAC		264 VAC			
Supply Frequency (Hz):				50		50		50		50		50		50			
Duty Cycle (s on, s off):				-		-		-		-		-		-			
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs		2 hrs		2 hrs			
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	-	50	50.0	50	50.0	50	50.0	50	50.0	50	50.0	50	50.0		Pass
1	2	FS1 BODY	125.0	96	96.0	90	90.0	68	68.0	68	68.0	85	85.0	67	67.0		Pass
1	3	L1 COIL	130.0	99	99.0	93	93.0	70	70.0	70	70.0	97	97.0	72	72.0		Pass
1	4	L2 COIL	130.0	107	107.0	99	99.0	78	78.0	78	78.0	112	112.0	84	84.0		Pass
1	5	C64 BODY	105.0	83	83.0	80	80.0	70	70.0	70	70.0	93	93.0	78	78.0		Pass
1	6	OPTO 1 BODY	105.0	87	87.0	85	85.0	78	78.0	77	77.0	85	85.0	76	76.0		Pass
1	7	PCB @ TR5,D5	130.0	109	109.0	101	101.0	83	83.0	83	83.0	122	122.0	93	93.0		Pass
1	8	D24 BODY	140.0	117	117.0	108	108.0	86	86.0	86	86.0	96	96.0	79	79.0		Pass
1	9	L4 COIL	130.0	101	101.0	96	96.0	79	79.0	78	78.0	103	103.0	83	83.0		Pass
1	10	L3 COIL	130.0	110	110.0	104	104.0	83	83.0	81	81.0	106	106.0	86	86.0		Pass
1	11	L5 COIL	130.0	107	107.0	106	106.0	102	102.0	103	103.0	107	107.0	102	102.0		Pass
1	12	PCB @ TR27	130.0	100	100.0	100	100.0	98	98.0	98	98.0	99	99.0	96	96.0		Pass
1	13	T1 COIL	130.0	109	109.0	109	109.0	108	108.0	108	108.0	106	106.0	105	105.0		Pass
1	14	T1 CORE	130.0	119	119.0	118	118.0	116	116.0	116	116.0	108	108.0	106	106.0		Pass
1	15	T2 BODY	130.0	96	96.0	95	95.0	91	91.0	91	91.0	97	97.0	91	91.0		Pass
1	16	T3 BODY	130.0	87	87.0	86	86.0	81	81.0	80	80.0	88	88.0	81	81.0		Pass
1	17	C34 BODY	105.0	87	87.0	86	86.0	83	83.0	83	83.0	86	86.0	82	82.0		Pass
1	18	L9 COIL	130.0	88	88.0	88	88.0	86	86.0	86	86.0	86	86.0	84	84.0		Pass
1	19	PBC @ TR16	130.0	95	95.0	95	95.0	94	94.0	94	94.0	93	93.0	92	92.0		Pass
1	20	CON1 BODY	105.0	73	73.0	71	71.0	60	60.0	60	60.0	74	74.0	63	63.0		Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected (t_m–t_a+ 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.

Thermal cutouts shall not operate.

Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-10-22, 2015-03-26	Amb. Temp (°C):	25
Sample No.:	3	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ____________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____ in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] ____ in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ______________________________

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS48: 48V/2.6A (125W) Convection		CHD250PS48: 48V/2.6A (125W) Convection		CHD250PS48: 48V/2.26A (108.5W) Convection with Cover		CHD250PS48: 48V/2.26A (108.5W) Convection with Cover		CHD250PS48: 48V/4.17A (200W) Convection		CHD250PS48: 48V/4.17A (200W) Convection		Remarks (Including Insulation class and Classification of Individual Insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				70		70		70		70		70		70			
Test ambient temp t_a (°C):				70		70		70		70		70		70			
Supply Voltage (V):				90 VAC		100 VAC		90 VAC		264 VAC		90 VAC		264 VAC			
Supply Frequency (Hz):				50		50		50		50		50		50			
Duty Cycle (s on, s off):				-		-		-		-		-		-			
Test Duration (h:m:s):				2 hrs		2 hrs		2 hrs		2 hrs		2 hrs		2 hrs			
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	-	70	70.0	70	70.0	70	70.0	70	70.0	70	70.0	70	70.0		Pass
1	2	F51 BODY	125.0	87	87.0	81	81.0	85	85.0	81	81.0	105	105.0	98	98.0		Pass
1	3	L1 COIL	130.0	88	88.0	82	82.0	90	90.0	85	85.0	115	115.0	114	114.0		Pass
1	4	L2 COIL	130.0	94	94.0	88	88.0	100	100.0	93	93.0	120	120.0	112	112.0		Pass
1	5	C64 BODY	105.0	86	86.0	85	85.0	92	92.0	89	89.0	99	99.0	91	91.0		Pass
1	6	OPTO 1 BODY	105.0	88	88.0	85	85.0	89	89.0	86	86.0	94	94.0	88	88.0		Pass
1	7	PCB @ TR5,D5	130.0	97	97.0	92	92.0	106	106.0	100	100.0	122	122.0	101	101.0		Pass
1	8	D24 BODY	140.0	100	100.0	94	94.0	98	98.0	94	94.0	127	127.0	105	105.0		Pass
1	9	L4 COIL	130.0	93	93.0	86	86.0	101	101.0	93	93.0	117	117.0	96	96.0		Pass
1	10	L3 COIL	130.0	98	98.0	89	89.0	104	104.0	94	94.0	108	108.0	92	92.0		Pass
1	11	L5 COIL	130.0	97	97.0	96	96.0	101	101.0	99	99.0	119	119.0	116	116.0		Pass
1	12	PCB @ TR27	130.0	95	95.0	94	94.0	98	98.0	96	96.0	110	110.0	107	107.0		Pass
1	13	T1 COIL	130.0	96	96.0	94	94.0	98	98.0	96	96.0	111	111.0	108	108.0		Pass
1	14	T1 CORE	130.0	99	99.0	98	98.0	99	99.0	97	97.0	120	120.0	116	116.0		Pass
1	15	T2 BODY	130.0	93	93.0	91	91.0	97	97.0	94	94.0	103	103.0	99	99.0		Pass
1	16	T3 BODY	130.0	89	89.0	86	86.0	93	93.0	90	90.0	98	98.0	92	92.0		Pass
1	17	C34 BODY	105.0	88	88.0	86	86.0	90	90.0	88	88.0	95	95.0	93	93.0		Pass
1	18	L9 COIL	130.0	88	88.0	86	86.0	89	89.0	88	88.0	99	99.0	97	97.0		Pass
1	19	PBC @ TR16	130.0	90	90.0	89	89.0	92	92.0	90	90.0	106	106.0	104	104.0		Pass
1	20	CON1 BODY	105.0	79	79.0	76	76.0	82	82.0	79	79.0	95	95.0	89	89.0		Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected (t_m–t_a+ 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.
Thermal cutouts shall not operate.
Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-11-06-2014-11-10	Amb. Temp (°C):	25
Sample No.:	3	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ________________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] _____in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ____

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS48: 48V/5.21A, 5V/1A (255W) Convection with 5V Stdby		CHD250PS48: 48V/5.21A, 5V/1A (255W) Convection with 5V Stdby		CHD250PS48: 48V/3.33A, 5V/1A (165W) Convection with Cover and 5V Stdby		CHD250PS48: 48V/3.33A, 5V/1A (165W) Convection with Cover and 5V Stdby						Remarks (Including Insulation class and Classification of Individual Insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				50		50		50		50							
Test ambient temp t_a (°C):				50		50		50		50							
Supply Voltage (V):				90 VAC		264 VAC		90 VAC		264 VAC		-		-			
Supply Frequency (Hz):				50		50		50		50							
Duty Cycle (s on, s off):				-		-		-		-							
Test Duration (h:m:s):				2 hrs		2 hrs		1 hr 15 min		1 hr 15 min							
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	-	50	50.0	50	50.0	50	50.0	50	50.0						Pass
1	2	FS1 BODY	125.0	85	85.0	65	65.0	76	76.0	67	67.0						Pass
1	3	L1 COIL	130.0	97	97.0	72	72.0	86	86.0	72	72.0						Pass
1	4	L2 COIL	130.0	110	110.0	84	84.0	102	102.0	87	87.0						Pass
1	5	C64 BODY	105.0	87	87.0	74	74.0	80	80.0	76	76.0						Pass
1	6	OPTO 1 BODY	105.0	93	93.0	83	83.0	80	80.0	75	75.0						Pass
1	7	PCB @ TR5,D5	130.0	108	108.0	86	86.0	94	94.0	86	86.0						Pass
1	8	D24 BODY	140.0	119	119.0	91	91.0	103	103.0	90	90.0						Pass
1	9	L4 COIL	130.0	112	112.0	89	89.0	100	100.0	87	87.0						Pass
1	10	L3 COIL	130.0	118	118.0	91	91.0	105	105.0	89	89.0						Pass
1	11	L5 COIL	130.0	105	105.0	100	100.0	110	110.0	105	105.0						Pass
1	12	PCB @ TR27	130.0	96	96.0	95	95.0	102	102.0	99	99.0						Pass
1	13	T1 COIL	130.0	102	102.0	102	102.0	97	97.0	95	95.0						Pass
1	14	T1 CORE	130.0	109	109.0	109	109.0	101	101.0	99	99.0						Pass
1	15	T2 BODY	130.0	110	110.0	104	104.0	101	101.0	97	97.0						Pass
1	16	T3 BODY	130.0	105	105.0	97	97.0	97	97.0	92	92.0						Pass
1	17	C34 BODY	105.0	92	92.0	88	88.0	84	84.0	82	82.0						Pass
1	18	L9 COIL	130.0	89	89.0	88	88.0	82	82.0	80	80.0						Pass
1	19	PBC @ TR16	130.0	92	92.0	92	92.0	86	86.0	84	84.0						Pass
1	20	CON1 BODY	105.0	75	75.0	62	62.0	68	68.0	85	85.0						Pass
1	21	T1 COIL-5B	130.0	105	105.0	99	99.0	101	101.0	96	96.0						Pass
1	22	T1 CORE-5B	130.0	101	101.0	94	94.0	98	98.0	93	93.0						Pass
1	23	C6 BODY-5B	105.0	83	83.0	81	81.0	82	82.0	80	80.0						Pass
1	24	L1 COIL-5B	130.0	84	84.0	83	83.0	83	83.0	81	81.0						Pass
1	25	C14 BODY-5B	125.0	114	114.0	99	99.0	103	103.0	94	94.0						Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected (t_m–t_a+ 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.
Thermal cutouts shall not operate.
Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-11-07-2014-11-11	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid(%):	42
Instrument Code/Range:	1, 3, 5, 9, 13	Amb. Pressure (mBar):	1020
Project No.:	4786824159	UL File No.:	E146893

TEMPERATURE TEST: [IEC 60601-1, 3rd Edition, Clause 11]

METHOD:

[ ] All necessary connections for the change-of-resistance measurement for the windings specified below were made. Initial ambient temperature and a cold resistance of the windings were measured and recorded.

Type K thermocouples were placed at the locations noted below.

[ ] The sample was placed in a test corner. The test corner consisted of two walls at right angles, [and] [a floor] [and] [a ceiling], all of dull black painted plywood of 20 mm thickness. The linear dimensions of the test corner were at least 115 percent of the linear dimensions of the unit. The unit was positioned [as near to the walls as possible] [on one wall as near as possible to the other wall] and to the [floor] [ceiling] [on the ceiling as near to the walls as possible] [suspended in its normal position].

[X] The sample was positioned as in normal use. The unit was connected and operated as specified in Table 11.

[ ] Hand-held equipment was suspended in ____________________, in still air.

[ ] Equipment normally used on a floor or a table was placed as [ ] as near to [ ] _____ in/mm from the walls as possible.

[ ] Equipment normally fixed to a wall was mounted on one of the walls, [ ] as near to [ ] ____ in/mm from the other wall and to the floor or ceiling as is likely to occur in NORMAL USE.

[ ] Equipment normally fixed to a ceiling was fixed to the ceiling as near to the walls as is likely to occur in NORMAL USE.

[ ] Other equipment was tested in the position of NORMAL USE: ______________________________

[ ] Equipment intended for installation in a cabinet or wall was built in as required by installation instructions, using dull black painted plywood walls, 10 mm thick when representing cabinet walls if the installation instructions so specify and 20 mm thick when representing building walls.

[ ] Rechargeable batteries /battery packs were completely discharged at the beginning of the test.

The Test Duration was recorded.

Thermal Stabilization

[ ] For ME EQUIPMENT intended for non-CONTINUOUS OPERATION: After operating in standby/quiescent mode until THERMAL STABILITY is reached, the ME EQUIPMENT is operated in NORMAL USE over consecutive cycles until THERMAL STABILITY is again achieved, or for 7 h, whichever is shorter. The "on" and "off" periods for each cycle are the RATED "on" and "off" periods;

[X] For ME EQUIPMENT for CONTINUOUS OPERATION, The ME EQUIPMENT is operated until THERMAL STABILITY is reached.

THERMAL STABILITY is considered to exist only if temperatures did not increase in 1 hour by more than 2 °C.

Datasheets - (03) Datasheets

RESULTS:

Model/Part/Type No.:				CHD250PS48: 48V/2.6A, 5V/0.5A (127.5W) Convection with 5V Stdby		CHD250PS48: 48V/2.6A, 5V/0.5A (127.5W) Convection with 5V Stdby		CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby		CHD250PS48: 48V/1.67A, 5V/0.5A (82.5W) Convection with Cover and 5V Stdby						Remarks (Including Insulation class and Classification of Individual Insulating materials or Relative Thermal Index (°C))	Verdict
Max. rated ambient operating temp T (°C):				70		70		70		70							
Test ambient temp t_a (°C):				70		70		70		70							
Supply Voltage (V):				90 VAC		264 VAC		90 VAC		264 VAC		-		-			
Supply Frequency (Hz):				50		50		50		50							
Duty Cycle (s on, s off):				-		-		-		-							
Test Duration (h:m:s):				2 hrs		2 hrs		1 hr 15 min		1 hr 15 min							
Model No.	Therm. No.	Thermocouple location [1]	Limit t_{max} (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)	Meas. tm (°C)	Corr. t_c (°C)		
1	1	TAMBIENT	-	70	70.0	70	70.0	70	70.0	70	70.0						Pass
1	2	F51 BODY	125.0	83	83.0	80	80.0	84	84.0	83	83.0						Pass
1	3	L1 COIL	130.0	89	89.0	85	85.0	89	89.0	86	86.0						Pass
1	4	L2 COIL	130.0	99	99.0	94	94.0	100	100.0	96	96.0						Pass
1	5	C64 BODY	105.0	88	88.0	88	88.0	89	89.0	90	90.0						Pass
1	6	OPTO 1 BODY	105.0	92	92.0	89	89.0	89	89.0	87	87.0						Pass
1	7	PCB @ TR5,D5	130.0	99	99.0	95	95.0	98	98.0	96	96.0						Pass
1	8	D24 BODY	140.0	103	103.0	97	97.0	101	101.0	98	98.0						Pass
1	9	L4 COIL	130.0	100	100.0	93	93.0	99	99.0	94	94.0						Pass
1	10	L3 COIL	130.0	103	103.0	96	96.0	102	102.0	97	97.0						Pass
1	11	L5 COIL	130.0	99	99.0	98	98.0	106	106.0	105	105.0						Pass
1	12	PCB @ TR27	130.0	96	96.0	95	95.0	102	102.0	102	102.0						Pass
1	13	T1 COIL	130.0	96	96.0	95	95.0	97	97.0	96	96.0						Pass
1	14	T1 CORE	130.0	100	100.0	99	99.0	100	100.0	99	99.0						Pass
1	15	T2 BODY	130.0	102	102.0	99	99.0	101	101.0	100	100.0						Pass
1	16	T3 BODY	130.0	99	99.0	96	96.0	99	99.0	97	97.0						Pass
1	17	C34 BODY	105.0	92	92.0	90	90.0	91	91.0	90	90.0						Pass
1	18	L9 COIL	130.0	90	90.0	89	89.0	89	89.0	88	88.0						Pass
1	19	PBC @ TR16	130.0	90	90.0	90	90.0	91	91.0	90	90.0						Pass
1	20	CON1 BODY	105.0	80	80.0	78	78.0	81	81.0	80	80.0						Pass
1	21	T1 COIL-5B	130.0	100	100.0	98	98.0	100	100.0	98	98.0						Pass
1	22	T1 CORE-5B	130.0	97	97.0	95	95.0	99	99.0	97	97.0						Pass
1	23	C6 BODY-5B	105.0	88	88.0	87	87.0	89	89.0	88	88.0						Pass
1	24	L1 COIL-5B	130.0	88	88.0	88	88.0	89	89.0	89	89.0						Pass
1	25	C14 BODY-5B	105.0	103	103.0	99	99.0	102	102.0	100	100.0						Pass

SUPPLEMENTARY INFORMATION:

Where:

t_m = measured temperature

t_c = t_m corrected (t_m–t_a+ 40 °C or max. RATED ambient).

t_{max} = maximum permitted temperature Max allowable temperature from Table 22, 23, or RM[2,4]

[1] When thermocouples used to determine temperature of windings, temperature limits of Table 22 reduced by 10 °C.

[2] Maximum allowable temperature on surfaces of test corner is 90 °C

[3] Max temperature determined in accordance with 11.1.3 e)

[4] See Attachment # s for RISK MANAGEMENT FILE containing temperatures & clinical effects. Also, see instructions for use.

[5] Record duration time for each test run.

CRITERIA:

The temperatures obtained shall not exceed the specified limits.
Thermal cutouts shall not operate.
Sealing or potting compound shall not flow out.

NOTES TO/FROM THE LAB:

None

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-07-02	Amb. Temp (°C):	25
Sample No.:	1	Amb. Humid (%):	41
Instrument Code/Range:	1, 3, 5, 9, 18	Amb. Pressure (mBar):	1019
Project No.:	4786824159	UL File No.:	E146893

ABNORMAL OPERATION AND SINGLE FAULT CONDITIONS: (IEC 60601-1, 3rd Edition, Clause 13)

METHOD:

The device was operated as indicated in Table 13 until ultimate results were obtained. All final results and the duration of each test were recorded in Table 13. If required, final temperatures were measured and recorded in Table 13. The normal conditions identified in 8.1a) were also applied in the least favorable combination unless otherwise noted in Table 13.

[X] The unit was positioned in the same way as for the Temperature Test.

[X] Failure of Components (4.7) - The points indicated in Table 13 were short circuited or opened, one at a time.

[X] For each fault condition, the Dielectric Voltage Withstand Test was repeated immediately following the conclusion of the test.

[X] For each fault condition, the Leakage Current Test was repeated immediately following the conclusion of the test.

RESULTS:

Clause	Description of single fault condition	Results observed	Hazardous situation occurred (Yes/No)	Remarks (Input Condition & Test Duration [h:m:s])	Verdict
13.2.2	Electrical single fault conditions according to 8.1:	-	-	-	-
13.2.2	SHORT: TR15, D/S	NB,NT,NC- Output shutdown when short was applied. Recovered after short was removed. Monitored for SELV, voltage was 0V < 0.2 sec. T1: 41°C, T2: 39°C, T3: 38°C, T1 Stdby: 60°C, TA: 25°C	No	264Vac/60Hz 2h:0m:0s Leakage: NC: 180 uA SFC: 353 uA	Pass
13.2.2	SHORT: OPTO 1, PIN 1 to 2	NB,NT,NC- Unit remained stable during short. T1: 112°C, T2: 105°C, T3: 99°C, T1 Stdby: 99°C, TA: 25°C	No	264Vac/60Hz 2h:0m:0s Leakage: NC: 138 uA SFC: 264 uA	Pass
13.2.2	SHORT: OPTO 1, PIN 3 to 4	NB,NT,NC- Unit remained stable during short. T1: 34°C, T2: 41°C, T3: 42°C, T1 Stdby: 51°C, TA: 25°C	No	264Vac/60Hz 1h:0m:0s Leakage: NC: 191 uA SFC: 368 uA	Pass
13.2.2	SHORT: L3, PIN 1 to 2	NB,NT,NC- Unit remained stable during short. T1: 115°C, T2: 111°C, T3: 106°C, T1 Stdby: 105°C, TA: 25°C	No	264Vac/60Hz 2h:0m:0s Leakage: NC: 131 uA SFC: 255 uA	Pass
13.2.2	*SHORT: C12, (+/-)	NB,NT,NC- FS1,FS2 opened immediately. T1: 31°C, T2: 30°C, T3: 29°C, T1 Stdby: 30°C, TA: 25°C	No	264Vac/60Hz 0h:0m:1s Leakage: NC: 138 uA SFC: 258 uA	Pass
13.2.2	SHORT: C12	NB,NT,NC- Both FS1,FS2 opened immediately. T1: 29°C, T2: 29°C, T3: 28°C, T1 Stdby: 29°C, TA: 25°C	No	264Vac/60Hz 0h:0m:1s Leakage: NC: 135 uA SFC: 254 uA	Pass
13.2.2	SHORT: TR2, D/S	NB,NT,NC- Both FS1,FS2 opened immediately. T1: 30°C, T2: 29°C, T3: 29°C, T1 Stdby: 29°C, TA: 25°C	No	264Vac/60Hz 0h:0m:1s Leakage: NC: 138 uA SFC: 257 uA	Pass

Datasheets - (03) Datasheets

13.2.2	SHORT: D24, A/C	NB,NT,NC- Both FS1,FS2 opened immediately. T1: 30°C, T2: 30°C, T3: 29°C, T1 Stdby: 28°C, TA: 25°C	No	264Vac/60Hz 0h:0m:1s Leakage: NC: 137 uA SFC: 255 uA	Pass
13.2.2	SHORT: TR4, D/S	NB,NT,NC- Both FS1,FS2 opened immediately. T1: 29°C, T2: 29°C, T3: 29°C, T1 Stdby: 27°C, TA: 25°C	No	264Vac/60Hz 0h:0m:1s Leakage: NC: 134 uA SFC: 253 uA	Pass

SUPPLEMENTARY INFORMATION: Test conducted with dielectric test voltage at 4352 Vac

See Table 11 for Temperatures obtained during the indicated Abnormal Operation tests.

CRITERIA:

Self-resetting thermal cutouts shall not operate.
The setting of any thermostat, thermal cutout or overload release shall not change due to heating, vibration or other causes.
The measured temperatures shall not exceed those allowable.
In each case the hazardous situations described in Clauses 13.1.2 to 13.1.4 shall not occur.
Dielectric breakdown shall not occur. See Table above or Clause 8.8.3 a test results for details.
Excessive leakage currents shall not occur. See Table above or Claue 8.7 test results for details.

NOTES TO/FROM THE LAB:

BMM 2015-03-31:Where: NB:No indication of dielectric breakdown; NT - Tissue paper remained intact; NC - Cheesecloth remained intact

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-07-01	Amb. Temp (°C):	25
Sample No.:	1, 3	Amb. Humid(%):	40
Instrument Code/Range:	1, 3, 5, 9, 18	Amb. Pressure (mBar):	1018
Project No.:	4786824159	UL File No.:	E146893

TRANSFORMER SHORT-CIRCUIT TEST: (IEC 60601-1, 3rd Edition, Clause 15.5.1.2)

METHOD:

[ ] All necessary connections for the change-of-resistance measurements for the windings indicated in Table 15.5.1.2 and 15.5.1.3 by Change of Resistance (COR) were made.

[X] Thermocouples were placed at all [other] locations. Initial ambient temperature and a cold resistance of the windings were measured.

The power transformer was placed [on a softwood surface] [in the appliance in the same location as that of the Temperature Test] and covered with cheesecloth.

PART I - SHORT CIRCUIT

[X] For transformers with multiple secondary windings, the above was repeated for each indicated remaining winding. The sample was allowed to cool to room temperature between each test.

Dielectric Voltage Withstand Tests (DWT) were repeated immediately after removing of the short condition on the winding and replacing all fuses and resetting all manual reset devices that opened as a result of the abnormal condition.

Thermal Stability - temperatures do not increase in 1 h by more than 2 °C.

RESULTS:

Primary voltage, most adverse value between 90 % to 110 % of RATED voltage (V)[1]:							264 Vac		
RATED input frequency (Hz):							60 Hz		
Winding tested	Class of insul. (A, B, E, F, or H)	Type of protective device (fuse, circuit breaker)/ Ratings	Protective device operated (Yes/No)	Time to THERMAL STABILITY when protective device did not operate (Min)	Maximum allowed temp from Table 31 (°C)	Maximum winding temp measured (°C)	Ambient (°C)	Remarks	Verdict
CHD250PS12: T1, Pin 9 to 12, Short	F	Fuse: 250V/5A	No	2 hrs	180	T1: 53°C T2: 54°C T3: 54°C T1 Stdby: 58°C	25	NB,NT,NC- Main output shutdown when short was applied. 5V output remained stable. V1 output recovered after short was removed. Leakage: NC: 175uA SFC: 345uA	Pass
CHD250PS12: T2, Pin 3 to 4	F	Fuse: 250V/5A	No	2 hrs	180	T1: 116°C T2: 103°C T3: 97°C T1 Stdby: 95°C	25	NB,NT,NC- Unit remained stable during short-circuit. Leakage: NC: 130uA SFC: 256uA	Pass

Datasheets - (03) Datasheets

CHD250PS12: T3, Pin 3 to 4	F	Fuse: 250V/5A	No	2 hrs	180	T1: 115°C T2: 101°C T3: 97°C T1 Stdby: 97°C	25	NB,NT,NC,CD-TR15. V1 output was intermittent after 45 minutes. 5V stdby remained stable. V1 output did not recovered after short was removed. Output shorted. Leakage: NC: 155uA SFC: 303uA	Pass
CHD250PS12: T1, Stdby: FL1 to FL2	F	Fuse: 250V/5A	No	2 hrs	180	T1: 103°C T2: 99°C T3: 93°C T1 Stdby: 88°C	25	NB,NT,NC- 5V standby output shutdown when short was applied. Main output remained stable. 5V standby output recovered after short was removed. Leakage: NC: 139uA SFC: 269uA	Pass
CHD250PS48: T1, Pin 9 to 12	F	Fuse: 250V/5A	No	2 hrs	180	T1: 53°C T2: 54°C T3: 54°C T1 Stdby: 58°C	25	NB,NT,NC- Main output shutdown when short was applied. 5V output remained stable. V1 output recovered after short was removed. Leakage: NC: 175uA SFC: 345uA	Pass
CHD250PS48: T2: Pin 3 to 4	F	Fuse: 250V/5A	No	2 hrs	180	T1: 116°C T2: 103°C T3: 97°C T1 Stdby: 95°C	25	NB,NT,NC- Unit remained stable during short-circuit. Leakage: NC: 130uA SFC: 256uA	Pass

Datasheets - (03) Datasheets

CHD250PS48: T3: Pin 3 to 4	F	Fuse: 250V/5A	No	2 hrs	180	T1: 115°C T2: 101°C T3: 97°C T1 Stdby: 97°C	25	NB,NT,NC,CD-TR15. V1 output was intermittent after 45 minutes. 5V stdby remained stable. V1 output did not recovered after short was removed. Output shorted. Leakage: NC: 155uA SFC: 303uA	Pass
CHD250PS48: T1, Pin FL1 to FL2, 5V Standby	F	Fuse: 250V/5A	No	2 hrs	180	T1: 103°C T2: 99°C T3: 93°C T1 Stdby: 88°C	25	NB,NT,NC- 5V standby output shutdown when short was applied. Main output remained stable. 5V standby output recovered after short was removed. Leakage: NC: 139uA SFC: 269uA	Pass

SUPPLEMENTARY INFORMATION:

[1] Loads on other windings between no load and their NORMAL USE load. Short circuit applied at end of windings or at the first point that could be short circuited under SINGLE FAULT CONDITION.

[ ] Short circuit test completed without operation of a protective device, overload test was not required.

CRITERIA:

The measured temperatures shall not exceed the maximum allowable temperatures.
There shall be no dielectric breakdown. See dielectric withstand data sheet for detailed results.
The winding shall not open under test.

NOTES TO/FROM THE LAB:

BMM 2015-03-31:Where: NB:No indication of dielectric breakdown; NT - Tissue paper remained intact; NC - Cheesecloth remained intact

Datasheets - (03) Datasheets

Tested By:	Rodney Reyes	Test Verdict:	PASS
Test Date(s):	2014-07-01-2014-10-27	Amb. Temp (°C):	25
Sample No.:	1, 3	Amb. Humid(%):	43
Instrument Code/Range:	1, 3, 5, 9, 18	Amb. Pressure (mBar):	1018
Project No.:	4786824159	UL File No.:	E146893

TRANSFORMER OVERLOAD TEST: (IEC 60601-1, 3rd Edition, Clause 15.5.1.3)

METHOD:

[ ] All necessary connections for the change-of-resistance measurements for the windings indicated in Table 15.5.1.2 and 15.5.1.3 by Change of Resistance (COR) were made.

[ ] Thermocouples were placed at all [other] locations. Initial ambient temperature and a cold resistance of the windings were measured.

The power transformer was placed [~~on a softwood surface~~] [in the appliance in the same location as that of the Temperature Test] and covered with cheesecloth.

PART II – OVERLOAD

The unit was connected to a supply specified in Table 15.5.1.3. (Between 90% and 110% of the RATED supply voltage, whichever was the least favorable and at rated frequency.)

Source of supply protected by a [20-amp] ~~[30-amp] [___~~-amp] circuit breaker.

With the transformer initially at room temperature, each secondary windings was overloaded one at a time and the sample was operated as indicated below. The remaining secondary winding loads were adjusted to [~~no load~~] [loaded as in normal use] [~~loaded as specified:~~________].

[ ] Windings with more than one protective device required multiple overload tests in order to fully evaluate worst-case normal use loading and fusing.

[ ] (a) Current of Protective Device Not Specified: The winding under test is loaded to its normal use load until thermal stability is reached. The load is then progressively adjusted in appropriate steps to approach the minimum current at which the protective device operates, allowing sufficient time for thermal stability to be reached. Following operation of a protective device, b) is performed:

[ ] (b) Windings provided with overcurrent protection were loaded to the test current specified in the table and operated for the indicated test duration. The overcurrent protector was replaced by links of negligible impedance.

[ ] If protective device that operated in a) is external to transformer it was shunted.

[ ] Fuses in Accordance with IEC 60127-1 The transformer or power supply was overloaded for 30 minutes so that the test current in the fused circuit was as indicated under Result for the specific winding which was the fuse rating multiplying the ratio in accordance with the following table.

Test Current for Transformer

Marked Value of RATED Current of protecting fuse-link [A]	Ratio between test current RATED current of the fuse-link
Up to and including 4	2.1
Over 4 up to and including 10	1.9
Over 10 up to and including 25	1.75
Over 25	1.6

[ ] Fuses Not in Accordance with IEC 60127-1 –

[ ] The transformer or power supply was overloaded for 30 minutes so that the test current in the fused circuit was as indicated under Result for the specific winding which, was as high as possible according to the characteristics supplied by the fuse manufacturer, but does not cause the fuse to operate (30 minute clearing-time current).

[ ] No 30 minute clearing-time current data is available, test current per the above table was used until thermal stability was achieved.

[X] Other protective device –

[ ] Windings protected by a thermal cutout were loaded to result in stable winding temperatures reaching approximately 85 percent of the thermal cutout temperature indicated in the table. The test current was then increased by 5 percent. When steady thermal conditions were again established, the load was again increased. These steps were continued until the thermal protector operated. The highest stable temperatures were recorded in the table.

[X] With the transformer for a switching type power supply operating at maximum specified load, each secondary winding was individually loaded after the rectifier (before the regulators). The winding was loaded starting from rated load and gradually adjusted, once temperatures were deemed to have stabilized. This process was continued until the maximum obtainable volt-ampere output was reached or just before foldback.

[X] For transformers with multiple secondary windings, the above was repeated for each indicated remaining winding. The sample was allowed to cool to room temperature between each test.

Dielectric Voltage Withstand Tests (DWT) were repeated immediately after removing of the short condition on the winding and replacing all fuses and resetting all manual reset devices that opened as a result of the abnormal condition.

Thermal Stability - temperatures do not increase in 1 h by more than 2 °C.

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RESULTS:

Primary voltage, most adverse value between 90 % to 110 % of RATED voltage (V)[1]:	264 Vac
RATED input frequency (Hz):	60 Hz
Test current just below minimum current that would activate protective device & achieve THERMAL STABILITY under method a) (A):	Foldback
Test current based on Table 32 when protective device that operated under method a) is external to transformer, and it was shunted (A):	-

Winding tested	Class of insulation (A, B, E, F, or H)	Type of protective device used (fuse, circuit breaker) / Ratings	Maximum allowed temp from Table 31 (°C)	Maximum winding temp measured (°C)	Ambient (°C)	Test duration	Test current or thermal cutout temp.	R_1 (Ω)	R_2 (Ω)	Remarks	Verdict
CHD250PS12: T1: Across C39	F	Fuse: 250V/5A	180	T1: 129°C T2: 118°C T3: 110°C T1 Stdby: 110°C	25	2 hrs	24	-	-	NB,NT,NC- Unit was stable during overload. Leakage: NC: 135 uA SFC: 259 uA	Pass
CHD250PS12: T2: Across C34	F	Fuse: 250V/5A	180	T1: 114°C T2: 108°C T3: 101°C T1 Stdby: 101°C	25	2 hrs	2.1	-	-	NB,NT,NC- Unit was stable during overload. Leakage: NC: 133 uA SFC: 258 uA	Pass
CHD250PS12: T3: Across C41	F	Fuse: 250V/5A	180	T1: 123°C T2: 112°C T3: 105°C T1 Stdby: 104°C	25	2 hrs	2.1	-	-	NB,NT,NC- Unit was stable during overload. Leakage: NC: 128 uA SFC: 252 uA	Pass
CHD250PS12: T1 Standby: Across C6	F	Fuse: 250V/5A	180	T1: 97°C T2: 104°C T3: 99°C T1 Stdby: 102°C	25	2 hrs	1.35	-	-	NB,NT,NC- Unit was stable during overload. Leakage: NC: 138 uA SFC: 271 uA	Pass
CHD250PS48: T1 Across C39	F	Fuse: 250V/5A	180	T1: 130°C T2: 108°C T3: 96°C T1 Stdby: 100°C	25	2 hrs	5.95	-	-	NB,NT,NC- Unit was stable during overload. Leakage: NC: 140 uA SFC: 278 uA	Pass
CHD250PS48: T2 Across C34	F	Fuse: 250V/5A	180	T1: 134°C T2: 109°C T3: 94°C T1 Stdby: 99°C	25	2 hrs	1.45	-	-	NB,NT,NC- Unit was stable during overload. Leakage: NC: 136 uA SFC: 270 uA	Pass
CHD250PS48: T3 Across C41	F	Fuse: 250V/5A	180	T1: 129°C T2: 109°C T3: 94°C T1 Stdby: 99°C	25	2 hrs	1.45	-	-	NB,NT,NC- Unit was stable during overload. Leakage: NC: 130 uA SFC: 255 uA	Pass
CHD250PS48: T1 Standby: Across C6	F	Fuse: 250V/5A	180	T1: 105°C T2: 101°C T3: 92°C T1 Stdby: 111°C	25	2 hrs	1.35	-	-	NB,NT,NC- Unit was stable during overload. Leakage: NC: 145 uA SFC: 286 uA	Pass

SUPPLEMENTARY INFORMATION:

[1] Loads on other windings between no load and their NORMAL USE load.

Time durations:

- IEC 60127-1 fuse: 30 min at current from Table 32.

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- Non IEC 60127-1 fuse: 30 min at the current based on characteristics supplied by fuse manufacturer, specifically, 30 min clearing-time current. When no 30 min clearing-time current data available, test current from Table 32 used until THERMAL STABILITY achieved.
- Other types of protective devices: until THERMAL STABILITY achieved at a current just below minimum current operating the protective device in a).

This portion concluded at specified time or when a second protective device opened.

CRITERIA:

The measured temperatures shall not exceed the maximum allowable temperatures.
There shall be no dielectric breakdown. See dielectric withstand data sheet for detailed results.
The winding shall not open under test.
Cheesecloth shall not char.

NOTES TO/FROM THE LAB:

BMM 2015-03-31:Where: NB:No indication of dielectric breakdown; NT - Tissue paper remained intact; NC - Cheesecloth remained intact

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END OF DATASHEET PACKAGE

-- END OF APPENDIX D --

CERTIFICATE OF COMPLIANCE

Certificate Number	20150331-E146893
Report Reference	E146893-D1002-1-ULCB
Issue Date	2015-03-31
Issued to:	XP POWER LLC 15641 Red Hill Ave., Ste. 100 Tustin, CA 97280 USA
This is to certify that representative samples of	Component power supply CHD250PSXXYY, (where the "XX" can be any number between 12 to 48 indicating main output voltage, "YY" can be SF or blank indicating Single Fuse), may also be provided with additional suffixes "-S", "-C", "-L", and/or "A" Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	ANSI/AAMI ES60601-1:2005/(R)2012, CSA CAN/CSA-C22.2 NO. 60601-1:14, IEC 60601-1 Edition 3.1 (2012)
Additional Information:	See the UL Online Certifications Directory at www.ul.com/database for additional information.

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Bruce Mahrenholz, Assistant Chief Engineer, Global Inspection and Field Services, UL LLC
Joseph Hosey, General Manager, Director of Sales – Canada, UNDERWRITERS LABORATORIES OF CANADA INC.

Helena Y. Wolf, Director, Global Market Access Operations, UL LLC