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REPORT

Prepared For:

Elections Systems and Software, LLC
11208 John Galt Blvd
Omaha, NE 68137 USA

Equipment: Voting Machine
Model Nos: DS300



Prepared By:
National Technical Systems
1736 Vista View Dr.
Longmont, CO 80504
Phone: 303-776-7249
Report Number: TR145960-PS
Project Number: PR145960

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REVISION SUMMARY

The following is a list of revisions that have been made to the report.

Document History				
<i>Revision</i>	<i>Issue Date</i>	<i>Affected Pages</i>	<i>Description Of Modifications</i>	<i>Revised By</i>
0			Initial Release	

NOTE: Latest revisions to report are identified by Bold Double Underlined Font.

REPORT SUMMARY

PREPARED FOR
Elections Systems and Software
11208 John Galt Blvd
Omaha, NE 68137 USA

STANDARD	TITLE
EN 62368-1:2018 (3rd Edition) UL 62368-1:2019 (3 rd Edition)	Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements

Job Number: PR145960

Date of Issue: 11 Feb 2022

Report Number: TR145960-PS

Revision Date: N/A

TESTING LABORATORY'S INFORMATION

Name: National Technical Systems
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Longmont, CO 80504
Phone: 303-776-7249
Fax:

TEST LOCATION INFORMATION

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Test Engineer:

Reviewed By:



Tested By: Son La
Product Safety Engineer

Reviewer: Joshua Salapare
Product Safety Engineer

MANUFACTURER'S INFORMATION

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Equipment: Voting Machine
Model Name: DS300

EUT: ES&S Model DS300

Overview

The DS300 is mounted on a cart with supporting separately certified equipment, including a certified AC/DC power adapter and certified lithium battery pack.

The guide provides information about maintaining the DS300®, including explanations and recommended actions relating to system messages. This guide does not support the repair of defective components or modules ordinarily performed by the manufacturer or firmware developer. The maintenance tasks described in this guide can be completed without using special tools or procedural steps that could result in voided manufacturer warranties or that should be performed only by a trained ES&S technician.

Model Similarities and Differences

N/A

Ratings:

Model	Electrical Ratings:			Dimensions: (H x W x D)	Equipment Mobility:
	Volts	Amps	Hz		
DS300	24	2.0	DC	35.5 x 24 x 26	stationary

Operating Condition:	Protection Class:	Enclosure Protection Rating:	External Power Supply Electrical Ratings:		
			Volts	Amps	Hz
Continuous	III	IPX0	120	2.0	60

GENERAL INFORMATION REGARDING THE REPORT FORMAT

Non-compliance: A summary of non-compliances identified in this report is located in the Findings Summary section of this report.

Resolution of Non-compliance: All resolutions to the non-compliances listed in this report are to be addressed by the manufacturer and included as part of the technical file maintained for this product.

CONCLUSION

The purpose of this report is to demonstrate compliance with accepted standards for product safety. Subsequent pages give the details of this investigation.

This report is based on the following standards: IEC 62368-1:2018. The wording of the requirements listed in this test report are provided for reference and informational purposes only and should not be considered a precise transcription of the standard as adopted by CENELEC. In case of doubt, reference should be made to the aforementioned standard.

FINDINGS SUMMARY

The Findings Summary is a summary of the discrepancies and non-compliances to the aforementioned standard(s). The requirement and its section number corresponding to the standard are given for each item. The Observations include a brief description of why we believe the product is not in compliance as well as recommendations on how to rectify the issue(s).

<u>Item No.</u>	<u>Section</u>	<u>Requirements & Observations</u>
1.		None

EVALUATION CHECKLIST



Test Report issued under the responsibility of:
 National Technical Systems

TEST REPORT EN 62368-1 Audio/Video, Information and Communication Technology Equipment Part 1: Safety Requirements	
Report Number	TR145960-PS
Date of issue	11 Feb 2022
Total number of pages	83
CE Testing Laboratory	National Technical Systems
Address	1736 Vista View Dr. Longmont, Colorado 80504
Applicant's name	Elections Systems and Software, LLC
Address	11208 John Galt Blvd Omaha, NE 68137 USA
Manufacturer's name	Elections Systems and Software
Address	11208 John Galt Blvd Omaha, NE 68137 USA
Test specification:	
Standard	EN 62368-1:2018 (Third Edition)
Test procedure	Informative test report for technical file & to support manufacturer's Declaration of Conformity.
Non-standard test method	N/A
Test Report Form No.	IEC62368_1E
Test Report Forms Originator	UL(US)
Master TRF	2021-02-04
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Test item description	Voting Machine
Trade Mark	
Manufacturer	Election Systems and Software, LLC
Model/Type reference	DS300
Ratings	DS300 Rating 24Vdc, 3.34A AC/DC adapter input 120Vac, 60Hz, 2.0A

Testing procedure and testing location:	
<input checked="" type="checkbox"/> CE Testing Laboratory:	National Technical Systems
Testing location/ address..... :	1736 Vista View Dr. Longmont, Colorado 80504
<input type="checkbox"/> Associated Testing Laboratory:	
Testing location/ address..... :	
Tested by (name + signature)	
Approved by (name + signature)..... :	
<input type="checkbox"/> Testing procedure:	
Testing location/ address..... :	
Tested by (name + signature)	
Approved by (name + signature)..... :	
Supervised by (name + signature) ... :	

List of Attachments (including a total number of pages in each attachment):

- 1. **National Differences 10 pages**
- 2. **Components 3 page**
- 3. **Photos 5 pages**
- 4. **Operation Manual 3 pages**
- 5. **Block Diagram/Spec Sheet 1 page**

Summary of testing:

Tests performed (name of test and test clause):

Classification of electrical energy sources **5.2**
Temperature measurements **5.4.1.4, 6.3.2, 9.0, B.2.6**
Durability, legibility and permanence of marking **F.3.10**
Electrical power sources (PS) measurements for classification **6.2.2**
Input test **B.2.5**
Static stability test **8.6.2, 8.6.3, 8.6.5**

Testing location:

National Technical Systems
1736 Vista View Dr. Longmont,
Colorado 80504

Summary of compliance with National Differences

List of countries addressed: USA

The product fulfills the requirements of UL62368-1:2019 (3rd Edition)

Copy of marking plate



Test item particulars

Classification of use by.....: Ordinary person Instructed person
 Skilled person Children likely to be present

Supply Connection

AC Mains DC Mains
 External Circuit - not Mains connected
 - ES1 ES2 ES3

Supply % Tolerance

+10%/-10%
 +20%/-15%
 + ___ %/ - ___ %
 None

Supply Connection – Type

pluggable equipment type A -
 non-detachable supply cord
 appliance coupler
 direct plug-in
 mating connector
 pluggable equipment type B -
 non-detachable supply cord
 appliance coupler
 permanent connection
 mating connector other: _____

Considered current rating of protective device as part of building or equipment installation.....: 15 A;
 Installation location: building; equipment

EUT: ES&S Model DS300

Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input checked="" type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III
Access location	<input checked="" type="checkbox"/> restricted access location <input type="checkbox"/> N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maxium operating ambient...	35°C
IP protection class	<input checked="" type="checkbox"/> IPX0 <input type="checkbox"/> IP____
Power Systems	<input type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - ____ V L-L
Altitude during operation (m)	<input checked="" type="checkbox"/> 3352.8 m or less <input type="checkbox"/> _____ m
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> _____ m
Mass of equipment (kg)	<input checked="" type="checkbox"/> 40____ Kg
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	04 February 2022
Dates of performance of tests	08 February 2022
General remarks:	
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 testing laboratory. "(see Enclosure #)" refers to additional information appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)	Elections Systems and Software 11208 John Galt Blvd Omaha NE 68137 USA
General product information:	
Product Description – The DS300® is a poll place ballot scanner and tabulator that is part of a jurisdiction-wide election system. Voters insert their ballots or ExpressVote® vote summary cards directly into the DS300 at the polling place. The DS300 scans ballots, tabulates votes and feeds inserted ballots into an attached, secure ballot boxThe DS300 provide with supporting separately certified equipment, including a certified AC/DC PSU.	

EUT: ES&S Model DS300

Model Differences –

N/A

Additional application considerations – (Considerations used to test a component or sub-assembly) –

N/A

Abbreviations used in the report:

- normal conditions	NC	- single fault conditions	SFC
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:

(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)
 (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.)

Electrically-caused injury (Clause 5):

(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)

Example: +5 V dc input

ES1

Source of electrical energy**Corresponding classification (ES)**

Certified AC/DC power supply input 120V, 60Hz
 All DC circuitry after certified AC/DC PSU

ES3

Electrically-caused fire (Clause 6):

(Note: List sub-assembly or circuit designation and corresponding energy source classification)

Example: Battery pack (maximum 85 watts):

PS2

Source of power or PIS**Corresponding classification (PS)**

Certified AC/DC power supply input 120V, 60Hz
 All DC circuitry

PS3

Injury caused by hazardous substances (Clause 7)

(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)

Example: Liquid in filled component

Glycol

Source of hazardous substances**Corresponding chemical**

N/A

N/A

Mechanically-caused injury (Clause 8)

(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)

Example: Wall mount unit

MS2

Source of kinetic/mechanical energy**Corresponding classification (MS)**

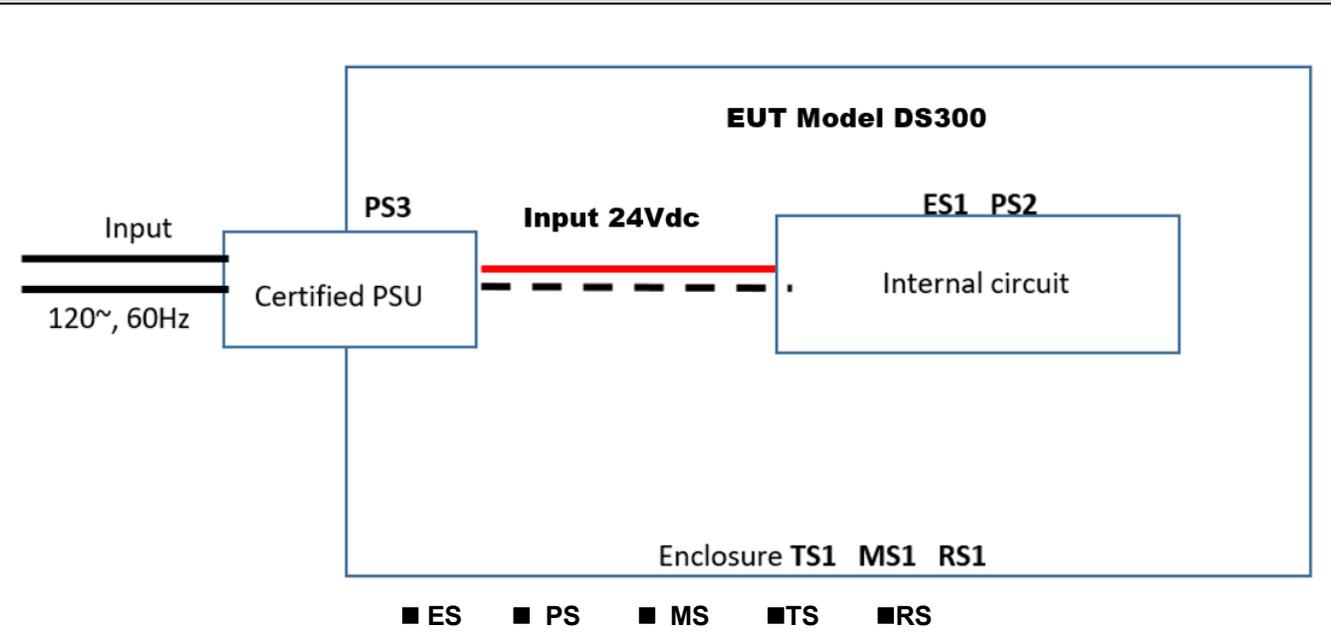
Output/Input tray moving ballot

N/A

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
Equipment mass	MS3
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	Corresponding classification (TS)
All Accessible parts	TS1
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	Corresponding classification (RS)
LED	RS1
SENSOR LED	RS1

ENERGY SOURCE DIAGRAM

Indicate which energy sources are included in the energy source diagram. Insert diagram below



OVERVIEW OF EMPLOYED SAFEGUARDS

Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Instructed person	ES3: Primary circuit	ES1	N/A	Enclosure

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All circuits	PS2: Declare	1. No ignition occurred 2. No parts exceeding 90% of its spontaneous ignition temperature	1. PCB is complied with V-0 material 2. All other components: at least V-2, V-1 material or small parts of combustible material	N/A
Switching power supply	PS3: Declare	Certified PSU	Certified PSU	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Instructed person	MS1: Sharp edges and corners	N/A	N/A	N/A
Instructed person	MS3: Equipment mass	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Instructed person	TS1: Accessible enclosure	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Instructed person	LED indicate light and sensor: exempt group	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
4.1.3	Equipment design and construction	No accessible part which could cause injury	P
4.1.15	Markings and instructions	(See Annex F)	P
4.4.4	Safeguard robustness	See below	P
4.4.4.2	Steady force tests	Steady force test at 250 N	P
4.4.4.3	Drop tests.....		N/A
4.4.4.4	Impact tests.....	No sign of damage on the metallic enclosure	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests:		N/A
4.4.4.6	Glass Impact tests		N/A
4.4.4.74	Thermoplastic material tests		N/A
4.4.4.8	Air comprising a safeguard		N/A
4.4.4.9	Accessibility and safeguard effectiveness	No damage	P
4.5	Explosion	No explosion occurs during normal/abnormal operation and single fault conditions	P
4.6	Fixing of conductors	SELV wire is short, primary connect wire secured. Short circuit of creepage, spacing distances not likely occur.	N/A
4.6.1	Fix conductors not to defeat a safeguard		N/A
4.6.2	10 N force test applied to		N/A
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard:		N/A
4.7.3	Torque (Nm).....		N/A
4.8	Products containing coin/button cell batteries		P
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Means to reduce the possibility of children removing the battery		—
4.8.4	Battery Compartment Mechanical Tests		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		N/A
5	ELECTRICALLY-CAUSED INJURY		P
5.2.1	Electrical energy source classifications.....	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits	ES1	P
5.2.2.2	Steady-state voltage and current.....	See appended table 5.2)	P
5.2.2.3	Capacitance limits		N/A
5.2.2.4	Single pulse limits.....		N/A
5.2.2.5	Limits for repetitive pulses		N/A
5.2.2.6	Ringling signals		N/A
5.2.2.7	Audio signals		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards	ES1	N/A
5.3.2.2	Contact requirements		N/A
	a) Test with test probe from Annex V		N/A
	b) Electric strength test potential (V)		N/A
	c) Air gap (mm)		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		N/A
5.4.1.2	Properties of insulating material	Evaluated in certified component power supply	N/A
5.4.1.3	Humidity conditioning.....		N/A
5.4.1.4	Maximum operating temperature for insulating materials:		N/A
5.4.1.5	Pollution degree	2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound	No such insulating parts	N/A
5.4.1.5.3	Thermal cycling		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.6	Insulation in transformers with varying dimensions	Evaluated in certified component power supply	N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		N/A
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat softening temperature..... :		N/A
5.4.1.10.3	Ball pressure :		N/A
5.4.2	Clearances	Part of certified PSU	N/A
5.4.2.2	Determining clearance using peak working voltage		N/A
5.4.2.3	Determining clearance using required withstand voltage		N/A
	a) AC mains transient voltage..... :		—
	b) DC mains transient voltage :		—
	c) external circuit transient voltage :		—
	d) transient voltage determined by measurement ... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages	All SELV 24VDC circuit	N/A
5.4.3	Creepage distances :		N/A
5.4.3.1	General		N/A
5.4.3.3	Material Group :		—
5.4.4	Solid insulation		N/A
5.4.4.2	Minimum distance through insulation :		N/A
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) :		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material :		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz		N/A
5.4.5	Antenna terminal insulation		N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ).....		—
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		N/A
	Relative humidity (%).....		—
	Temperature (°C)		—
	Duration (h)		—
5.4.9	Electric strength test		N/A
5.4.9.1	Test procedure for a solid insulation type test		N/A
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit	No connection to external circuits	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test		N/A
5.4.10.2.3	Steady-state test.....		N/A
5.4.11	Insulation between external circuits and earthed circuitry :		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V).....		—
	Nominal voltage U_{peak} (V).....		—
	Max increase due to variation U_{sp}		—
	Max increase due to ageing ΔU_{sa}		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$		—
5.5	Components as safeguards		N/A
5.5.1	General		N/A
5.5.2	Capacitors and RC units		N/A
5.5.2.1	General requirement		N/A
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector		N/A
5.5.3	Transformers		N/A
5.5.4	Optocouplers		N/A
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable		N/A
5.6	Protective conductor		
5.6.2	Requirement for protective conductors		N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Color of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²)		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²).		—
	Protective current rating (A)		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm ²), nominal thread diameter (mm):		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		N/A
5.6.6.1	Requirements		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.6.2	Test Method Resistance (Ω)..... :		N/A
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		N/A
5.7.2.1	Measurement of touch current..... :		N/A
5.7.2.2	Measurement of prospective touch voltage		N/A
5.7.3	Equipment set-up, supply connections and earth connections		N/A
	System of interconnected equipment (separate connections/single connection) :	No such component.	—
	Multiple connections to mains (one connection at a time/simultaneous connections) :	Single input source only	—
5.7.4	Earthed conductive accessible parts :		N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V)..... :		—
	Measured current (mA)..... :		—
	Instructional Safeguard..... :		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (mA)..... :		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA) :		N/A
6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications	PS3	P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault.... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault :		N/A
6.2.2.4	PS1 :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.5	PS2		N/A
6.2.2.6	PS3	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS		N/A
6.3	Safeguards against fire under normal operating and abnormal operating conditions		
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	(See appended table 5.4.1.5, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method		P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		N/A
6.4.5.2	Supplementary safeguards	(See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuit	PCB: V-0, certified component power supply	P
6.4.7	Separation of combustible materials from a PIS		N/A
6.4.7.1	General		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		N/A
6.4.8.1	Fire enclosure and fire barrier material properties		N/A
6.4.8.2.1	Requirements for a fire barrier		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.8.2.2	Requirements for a fire enclosure		N/A
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		N/A
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm):		N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm)		N/A
	Flammability tests for the bottom of a fire enclosure:		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c):		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating..... :		N/A
6.5	Internal and external wiring		
6.5.1	Requirements		N/A
6.5.2	Cross-sectional area (mm ²)		—
6.5.3	Requirements for interconnection to building wiring :		N/A
6.6	Safeguards against fire due to connection to additional equipment		N/A
	External port limited to PS2 or complies with Clause Q.1		N/A
7	INJURY CAUSED BY HAZARDOUS SUBSTANCES		N/A
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions.....:		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010).....:		—
7.6	Batteries	Certified batteries used	P
8	MECHANICALLY-CAUSED INJURY		P
8.1	General		P
8.2	Mechanical energy source classifications	Sharp edges and corners, classified as MS1 Equipment mass classified as MS3	P

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Clause	Requirement + Test	Result - Remark	Verdict
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners	No sharp edges or corners	N/A
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts		N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard		—
8.5.4	Special categories of equipment comprising moving parts	Cart with four wheels pass the tilt test	P
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks.....	(See Annex F.4 and Annex K)	P
8.5.4.2.2	Instructional safeguards against moving parts		P
	Instructional Safeguard	Warning label	—
8.5.4.2.3	Disconnection from the supply	Provide in manual	P
8.5.4.2.4	Probe type and force (N).....		N/A
8.5.5	High Pressure Lamps	LED indicator and sensor	N/A
8.5.5.1	Energy Source Classification	RS1	N/A
8.5.5.2	High Pressure Lamp Explosion Test.....		N/A
8.6	Stability		P
8.6.1	Product classification		P
	Instructional Safeguard	Provide in the user manual	—
8.6.2	Static stability		P
8.6.2.2	Static stability test	Equipment remains stable after being tilted 10°	P
	Applied Force		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		P
	Unit configuration during 10° tilt.....	No sign of tip over	—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....	100N	P
	Position of feet or movable parts	No sign of tip over	—

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Clause	Requirement + Test	Result - Remark	Verdict
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface)		N/A
8.7.2	Direction and applied force		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force		N/A
8.9	Wheels or casters attachment requirements	Device not intended to be moved in normal operating	N/A
8.9.1	Classification		N/A
8.9.2	Applied force		—
8.10	Carts, stands and similar carriers	Device not intended to be moved in normal operating	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		P
	Instructional Safeguard	Installation manual provided	—
8.10.3	Cart, stand or carrier loading test and compliance	Equipment not intended to install where child accessible	N/A
	Applied force		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N)		—
8.10.6	Thermoplastic temperature stability (°C).....		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i>		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas		N/A
	Button/Ball diameter (mm)		—

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Clause	Requirement + Test	Result - Remark	Verdict
9	THERMAL BURN INJURY		P
9.2	Thermal energy source classifications	All accessible surfaces are classified as TS1, see appended table 5.4.1.4, 6.3.2, 9.0, B.2.6	P
9.3	Safeguard against thermal energy sources		N/A
9.4	Requirements for safeguards		N/A
9.4.1	Equipment safeguard	Enclosure temperatures do not exceed TS1 limits.	N/A
9.4.2	Instructional safeguard		N/A
10	RADIATION		P
10.2	Radiation energy source classification	RS1	P
10.2.1	General classification		N/A
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault.....:		N/A
	Instructional safeguard		—
	Tool		—
10.4	Protection against visible, infrared, and UV radiation	No such component	N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons		N/A
10.4.1.b)	RS3 accessible to a skilled person.....:		N/A
	Personal safeguard (PPE) instructional safeguard:		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 ..		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque:		N/A
10.4.1.f)	UV attenuation		N/A
10.4.1.g)	Materials resistant to degradation UV.....:		N/A
10.4.1.h)	Enclosure containment of optical radiation.....:		N/A
10.4.1.i)	Exempt Group under normal operating conditions:		N/A
10.4.2	Instructional safeguard		N/A
10.5	Protection against x-radiation	No such x-radiation generated from the equipment.	N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Equipment safeguards		N/A
	Instructional safeguard for skilled person		N/A
10.5.3	Most unfavorable supply voltage to give maximum radiation		—
	Abnormal and single-fault condition.....		N/A
	Maximum radiation (pA/kg).....		N/A
10.6	Protection against acoustic energy sources	No such consideration for the purpose of personal music players.	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)		N/A
	Output voltage, unweighted r.m.s.		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards.....		N/A
	Equipment safeguard prevent ordinary person to RS2:		—
	Means to actively inform user of increase sound pressure:		—
	Equipment safeguard prevent ordinary person to RS2:		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output:		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)		—
B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers :		N/A
B.2.3	Supply voltage and tolerances	+10% / -10%	P
B.2.5	Input test	(See appended table B.2.5)	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements	(See appended table B.3)	P
B.3.2	Covering of ventilation openings		P
B.3.3	D.C. mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals.....	No output terminals of equipment supplying power to other equipment,	N/A
B.3.6	Reverse battery polarity		N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	No audio amplifier	N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		N/A
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited :		N/A
B.4.3	Motor tests		N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature		N/A
B.4.4	Short circuit of functional insulation	In addition by circuit analysis, any failure of functional insulation will not compromise basic, supplementary or reinforced safeguards.	P
B.4.4.1	Short circuit of clearances for functional insulation	See above	P
B.4.4.2	Short circuit of creepage distances for functional insulation	Evaluated in certified component power supply. See B.4.4. Above.	N/A
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		N/A
B.4.6	Short circuit or disconnect of passive components		N/A
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		N/A
B.4.9	Battery charging under single fault conditions.... :		N/A
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	TEST GENERATORS		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V).....:		—
	Rated load impedance (Ω)		
E.2	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General requirements		P
	Instructions – Language	English version checked	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1	Letter symbols for quantities and units are complied with IEC 60027-1.	P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific	Graphical symbols are complied with IEC 60417, ISO 3864-2, ISO 7000 or ISO 7010.	P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Equipment marking is located on the exterior surface and is easily visible.	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification	Trade mark identified	—
F.3.2.2	Model identification	Model identification is marked on nameplate	—
F.3.3	Equipment rating markings	24Vdc, 3.34A, 90W Max	P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.3.3	Nature of supply voltage	DC	—
F.3.3.4	Rated voltage.....	24V	—
F.3.3.4	Rated frequency		—
F.3.3.6	Rated current or rated power.....	3.34 A	—
F.3.3.7	Equipment with multiple supply connections	Only one supply connection.	N/A
F.3.4	Voltage setting device	No such device on the equipment.	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings :	No outlet or socket-outlet	N/A
F.3.5.2	Switch position identification marking.....:	ON/OFF (IEC 60417-5007)	P
F.3.5.3	Replacement fuse identification and rating markings :		N/A
F.3.5.4	Replacement battery identification marking.....:		N/A
F.3.5.5	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		N/A
F.3.6.1	Class I Equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals		N/A
F.3.6.2	Class II equipment (IEC60417-5172)		N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking		—
F.3.8	External power supply output marking	IPX0	N/A
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test, 15 sec. for water and 15 sec. for petroleum spirit. After each test, the marking remained legible.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	d) Equipment intended for use only in restricted access area		P
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		P
	g) Protective earthing conductor current exceeding ES 2 limits	ES1	N/A
	h) Symbols used on equipment		P
	i) Permanently connected equipment not provided with all-pole mains switch	Not a permanently connected equipment	N/A
	j) Replaceable components or modules providing safeguard function		N/A
F.5	Instructional safeguards		P
	Where "instructional safeguard" is referenced in the test report it specifies the required elements, location of marking and/or instruction		P
G	COMPONENTS		P
G.1	Switches		P
G.1.1	General requirements		P
G.1.2	Ratings, endurance, spacing, maximum load		P
G.2	Relays		N/A
G.2.1	General requirements	Evaluated in certified component power supply.	N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
G.3	Protection Devices		N/A
G.3.1	Thermal cut-offs	No thermal cut-off provided within the equipment.	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691		N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Single Fault Condition..... :		—
	Test Voltage (V) and Insulation Resistance (Ω) . :		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions :		N/A
G.4	Connectors		
G.4.1	Spacings	Evaluated in certified component power supply.	N/A
G.4.2	Mains connector configuration :		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	Wound Components		N/A
G.5.1	Wire insulation in wound components		N/A
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s)..... :		—
	Temperature (°C)..... :		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	Transformers		N/A
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1)	Evaluated in certified component power supply.	N/A
	Position		—
	Method of protection		—
G.5.3.2	Insulation		N/A
	Protection from displacement of windings		—
G.5.3.3	Overload test		N/A
G.5.3.3.1	Test conditions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	Motors		P
G.5.4.1	General requirements	Motor Stepper 3.1V	N/A
	Position		—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for DC motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V)		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) :		N/A
	Electric strength test (V)		—
G.5.4.6	Locked-rotor overload test for DC motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
	Electric strength test (V)		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) :		N/A
	Electric strength test (V)		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		N/A
G.6.1	General		N/A
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	Mains supply cords		P
G.7.1	General requirements		P
	Type	SJT VW-1. 60°C	—
	Rated current (A)	7A consideration	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Cross-sectional area (mm ²), (AWG).....:	824 mm ² , 18AWG	—
G.7.2	Compliance and test method	Detachable power cord	N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N).....:		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm).....:		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry.....:		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g).....:		—
	Diameter (m).....:		—
	Temperature (°C).....:		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	Varistors		N/A
G.8.1	General requirements	Evaluated in certified component power supply.	N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test.....:		N/A
G.8.3.3	Temporary overvoltage.....:		N/A
G.9	Integrated Circuit (IC) Current Limiters		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	Evaluated in certified component power supply.	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA.....:		—
G.9.1 d)	IC limiter output current (max. 5A).....:		—
G.9.1 e)	Manufacturers' defined drift.....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
G.10	Resistors		N/A
G.10.1	General requirements	Evaluated in certified component power supply.	N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	Capacitor and RC units		N/A
G.11.1	General requirements		N/A
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results) :		N/A
	Type test voltage V _{ini}		—
	Routine test voltage, V _{ini,b}		—
G.13	Printed boards		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Liquid filled components		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage:		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance		—
D3)	Resistance		—
H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V).....		—
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
	General requirements		N/A
K	SAFETY INTERLOCKS		P
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance.....		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location)		N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements		P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
L.8	Multiple power sources		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		P
M.1	General requirements	Certified Batteries	N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements	Certified Batteries	N/A
M.2.2	Compliance and test method (identify method)...:		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance	Certified Batteries	N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General	Certified Batteries	N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature		—
M.4.2.2 b)	Single faults in charging circuitry.....		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation	Certified Batteries	N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.5.2	Compliance and Test Method (Test of P.2.3)	Certified Batteries	N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits	Certified Batteries	N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method):		N/A
M.6.2	Leakage current (mA)		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method	Certified Batteries	N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume Vz (m ³ /s)		—
M.8.2.3	Correction factors		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing)		N/A
N	ELECTROCHEMICAL POTENTIALS		N/A
	Metal(s) used	Pollution degree considered	—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		N/A
	Figures O.1 to O.20 of this Annex applied	Evaluated in certified component power supply.	—
P	SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS		N/A
P.1	General requirements	Complete enclosure	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
P.2.2	Safeguards against entry of foreign object	It's impossible entry of a conductive object from outside the equipment.	N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts:		N/A
P.2.3.2	Openings in transportable equipment in relation to metalized parts of a barrier or enclosure (identification of supplementary safeguard)		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metalized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C)		—
	Tr (°C).....		—
	Ta (°C).....		—
P.4.2 b)	Abrasion testing	(See G.13.6.2)	N/A
P.4.2 c)	Mechanical strength testing.....	(See Annex T)	N/A
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	Regulating network limited output under normal operating and simulated single fault condition		P
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Current limiting method		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General requirements	No such consideration.	N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A):		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material.....		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material.....		—
	Wall thickness (mm)		—
	Conditioning (°C)		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material.....		—
	Wall thickness (mm)		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material.....		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Wall thickness (mm)		—
	Conditioning (test condition), (°C)		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	MECHANICAL STRENGTH TESTS		N/A
T.1	General requirements		N/A
T.2	Steady force test, 10 N		N/A
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N		N/A
T.5	Steady force test, 250 N		P
T.6	Enclosure impact test		P
	Fall test	Due to mass of equipment 90 kg tests is not applicable	N/A
	Swing test	See above	N/A
T.7	Drop test	Due to mass of equipment 90 kg drop tests is not applicable	N/A
T.8	Stress relief test.....		N/A
T.9	Impact Test (glass)	No such glass provided within the equipment.	N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....		—
	Height (m).....		—
T.10	Glass fragmentation test.....		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		—
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....		N/A

EUT: ES&S Model DS300

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
V	DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)		P
V.1	Accessible parts of equipment	No live parts.	N/A
V.2	Accessible part criterion		N/A

4.1.2	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard	Marks of conformity ¹	
- Description:						
Enclosure	SABIC	FR Resin C6600	FR PC+ABS, 94V-0, 275°C	UL 94	UR	
Secure Ballot Box	Various	Various	ABS, overall provided with 4 locking casters	UL 62368-1	Evaluated in Equipment	
Battery	EVE Energy CO LTD	ICR 18650 26V	3.6V, 2550mAh, 9.18Wh, 50°C	IEC 62133, UL1642	UL, TUV	
Battery	Zeus Battery Products	PCLI18650-5S2P ESS1	5200mAh, 18.5V, 50°C	IEC 62133, UL1642	UL, TUV	
Monitor	AUO	G121XN01 V001	3.3V, 6.8W, 85°C	62368-1	Evaluated in Equipment	
Fuse	Little Fuse	154004 DRT	125V, 4A, 125°C	-	UR, CSA	
Wiring	Various	Various	AWM, rated min 300V, VW-1, 80°C, min. 16AWG.	UL 758	UL, CSA	
Thermal Printer	Seiko Instruments	LTPD 347B-576-E	24V, 0.5A, 50°C	62368-1	Evaluated in Equipment	
PWB	Various	Various	Rated 94V-0, 105°C.	UL94	UR	
Mother Board	VIA Embedded	VT6112	24V, 50°C	62368-1	Evaluated in Equipment	
AC/DC Adapter	Wall Industries, Inc	DTEA11011C- ESS	100-240V Output 24Vdc, 3.75A, 90W,40°C	60950-1	UL, TUV	
Drive Motor	Shinano	01-310-00001	Motor Stepper 3.1V,1.0A 1.8DEGREES/ST EP, 25°C	62368-1	Evaluated in Equipment	
Power Cord	Various	Various	SJT, 300V, VW- 1, 60°C, 18AWG.	UL62	UL, CSA	
Supplementary information: ¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.						
²⁾ Description line content is optional. Main line description needs to clearly detail the component used for testing.						

4.8.4, 4.8.5	TABLE: Lithium coin/button cell batteries mechanical tests			N/A
(The following mechanical tests are conducted in the sequence noted.)				
4.8.4.2	TABLE: Stress Relief test			—
Part		Material	Oven Temperature (°C)	Comments
4.8.4.3	TABLE: Battery replacement test			—
Battery part no.:				—
Battery Installation/withdrawal		Battery Installation/Removal Cycle		Comments
		1		
		2		
		3		
		4		
		5		
		6		
		8		
		9		
		10		
4.8.4.4	TABLE: Drop test			—
Impact Area		Drop Distance	Drop No.	Observations
			1	
			2	
			3	
4.8.4.5	TABLE: Impact			—
Impacts per surface		Surface tested	Impact energy (Nm)	Comments
4.8.4.6	TABLE: Crush test			—
Test position		Surface tested	Crushing Force (N)	Duration force applied (s)
Supplementary information:				

4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result			N/A
Test position	Surface tested	Force (N)	Duration force applied (s)	
Supplementary information: Certified battery provided				

5.2	Table: Classification of electrical energy sources	P
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5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (A _{pk} or A _{rms})	Hz	
1	120	Power supply	Normal	120	0.4	60	ES1
			Abnormal	-	-	-	
			Single fault –SC/OC	-	-	-	
			Normal	-	-	-	
			Abnormal	-	-	-	
			Single fault –SC/OC	-	-	-	

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
			Normal			
			Abnormal			
			Single fault – SC/OC			

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ip _k (mA)	
			Normal				
			Abnormal				
			Single fault – SC/OC				

5.2.2.5 - Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ip _k (mA)	
			Normal				
			Abnormal				
			Single fault – SC/OC				

Test Conditions: Normal –
Abnormal -

Supplementary information: SC=Short Circuit, OC=Short Circuit

5.4.1.4, 6.3.2, 9.0, B.2.6		TABLE: Temperature measurements					P	
	Supply voltage (V)	120V					—	
	Ambient T _{min} (°C)	21.8					—	
	Ambient T _{max} (°C)	22.4					—	
	T _{ma} (°C)	--					—	
Maximum measured temperature T of part/at:		T (°C)					Allowed T _{max} (°C)	
1. Battery Enclosure		22.1					90	
2. Battery Connector		35.2					130	
3. AC/DC Power Supply Adapter Enclosure		28.9					90	
4. Controller Board VIA-VT6112		44.5					130	
5. PMB Board		40.7					130	
6. Printer Controller Board		39.8					130	
7. Touch Screen		29.4					60	
8. Motor Metallic Enclosure		33.5					70	
9. Plastics Enclosure		26.9					70	
10. Ambient		21.8					--	
Supplementary information:								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:								
Note 1: T _{ma} should be considered as directed by applicable requirement								
Note 2: T _{ma} is not included in assessment of Touch Temperatures (Clause 9)								

5.4.1.10.2		TABLE: Vicat softening temperature of thermoplastics			N/A	
Penetration (mm).....					—	
Object/ Part No./Material		Manufacturer/t rademark	T softening (°C)			
supplementary information:						

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			N/A
Allowed impression diameter (mm) : ≤ 2 mm				—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
Supplementary information:				

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) ¹	Required cl (mm)	cl (mm) ²	Required ³ cr (mm)	cr (mm)
Supplementary information:							
Note 1: Only for frequency above 30 kHz							
Note 2: See table 5.4.2.4 if this is based on electric strength test							
Note 3: Provide Material Group: III							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			N/A
	Overvoltage Category (OV):			
	Pollution Degree:			
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)	
Supplementary information:				

5.4.2.4	TABLE: Clearances based on electric strength test			N/A
Test voltage applied between:	Required cl (mm)	Test voltage (kV) peak/ r.m.s. / DC	Breakdown Yes / No	

Supplementary information: **CL and Cr are part of power supply certification except BI of terminal block to enclosure**

5.4.4.2, 5.4.4.5c) 5.4.4.9	TABLE: Distance through insulation measurements	N/A
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Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)

Supplementary information:

5.4.9	TABLE: Electric strength tests	N/A
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Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
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Functional:

Basic/supplementary:

Reinforced:

Routine Tests:

Supplementary information:

5.5.2.2	TABLE: Stored discharge on capacitors	N/A
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Supply Voltage (V) Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification

EUT: ES&S Model DS300

X-capacitors installed for testing are:

bleeding resistor rating:

ICX:

Notes:

A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth

B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition

5.6.6.2	TABLE: Resistance of protective conductors and terminations				N/A
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)	
From ground input to enclosure					
Supplementary information:					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		N/A
Supply voltage			—
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7		Touch current (mA)
Power source connection and ground (chassis) chassis/enclosure is earthed accessible conductive part the touch current shall not exceed the ES2 limits: 5 mA r.m.s *Equipment provide switch and detached power cord use.	1		-
	2*		-
	3		-
	4		-
	5		-
	6		-
	8		-
Supplementary Information:			
Notes:			
[1] Supply voltage is the anticipated maximum Touch Voltage			
[2] Earthed neutral conductor [Voltage differences less than 1% or more]			
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3			
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.			
[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.			

6.2.2		Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s [*]	PS Classification	
A	Power Supply (Nominal)	Power (W) :	52.8	52.8	PS2	
		V _A (V) :	120.0	120.0		
		I _A (A) :	0.44	0.44		
B	Power Supply (+10%)	Power (W) :	48.84	48.84	PS2	
		V _A (V) :	132.0	132.0		
		I _A (A) :	0.37	0.37		
C	Power Supply (-10%)	Power (W) :	48.6	48.6	PS2	
		V _A (V) :	108.0	108.0		
		I _A (A) :	0.45	0.45		

Supplementary Information:
(*) Measurement taken only when limits at 3 seconds exceed PS1 limits

6.2.3.1		Table: Determination of Potential Ignition Sources (Arcing PIS)			N/A
Location	Open circuit voltage After 3 s (V _p)	Measured r.m.s current (I _{rms})	Calculated value (V _p x I _{rms})	Arcing PIS? Yes / No	

Supplementary information:
An Arcing PIS requires a minimum of 50 V (peak) AC or DC. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.

6.2.3.2		Table: Determination of Potential Ignition Sources (Resistive PIS)			N/A
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes/No (Comment)	Resistive PIS? Yes/No

Supplementary Information: A combination of voltmeter, VA and ammeter I_A may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (V_A x I_A) is used to determine Resistive PIS classification.

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

8.5.5		TABLE: High Pressure Lamp		N/A
Description		Values	Energy Source Classification	
Lamp type			—	
Manufacturer			—	
Cat no.			—	
Pressure (cold) (MPa).....			MS_	
Pressure (operating) (MPa).....			MS_	
Operating time (minutes).....			—	
Explosion method			—	
Max particle length escaping enclosure (mm) ..			MS_	
Max particle length beyond 1 m (mm).....			MS_	
Overall result				

B.2.5		TABLE: Input test					P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
108	0.45	2.0	48.8	N/A	--	--	Runnning max load
120	0.44	2.0	52.8	N/A	--	--	Runnning max load
132	0.37	2.0	48.6	N/A	--	--	Runnning max load

Supplementary information: Equipment may be have rated current or rated power or both. Both should be measured

B.3		TABLE: Abnormal operating condition tests						N/A
Ambient temperature (°C)								—
Power source for EUT: Manufacturer, model/type, output rating ..								—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation

Supplementary information: Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.

B.4	TABLE: Fault condition tests							N/A
Ambient temperature (°C)								—
Power source for EUT: Manufacturer, model/type, output rating . :								—
Component No.	Fault Condition	Supply voltage, (V)	Test time (ms)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Supplementary information:								

Annex M	TABLE: Batteries							N/A	
The tests of Annex M are applicable only when appropriate battery data is not available								N/A	
Is it possible to install the battery in a reverse polarity position?..... :								N/A	
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition									
Max. current during fault condition									
Test results:									
- Chemical leaks									Verdict
- Explosion of the battery									
- Emission of flame or expulsion of molten metal									
- Electric strength tests of equipment after completion of tests									
Supplementary information:									

Annex M.4	Table: Additional safeguards for equipment containing secondary lithium batteries						N/A
Battery/Cell No.	Test conditions	Measurements			Observation		
		U	I (A)	Temp (C)			
	Normal						

EUT: ES&S Model DS300

	Abnormal				
	Single fault –SC/OC				
	Normal				
	Abnormal				
	Single fault – SC/OC				
Supplementary Information:					
Battery identification	Charging at T _{lowest} (°C)	Observation	Charging at T _{highest} (°C)	Observation	
Supplementary Information: Certified batteries used					

Annex Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)	N/A				
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U _{oc} (V)	I _{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
Supplementary Information: SC=Short circuit, OC=Open circuit						

T.2, T.3, T.4, T.5	TABLE: Steady force test	P			
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation
Rear Panel	ABS	2.0mm	250	5	No sign of damage
Supplementary information:					

T.6, T.9	TABLE: Impact tests	P		
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation
Enclosure	ABS	3.0mm	1.0	No sign of damage

Supplementary information:

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	

Supplementary information:

T.8	TABLE: Stress relief test				N/A
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation

Supplementary information:

EUT: ES&S Model DS300

List of test equipment used:

Equipment ID#	Testing / measuring equipment / material used	Range used	Calibration date	Cal Due Date
WC059669	Multimeter	Voltage/Amp	09/23/2021	09/23/2022
WC078486	Thermometer	Celsius/Humidity	06/14/2021	06/14/2022
WC078492	Digital Protractor	Angle Finder	05/05/2021	05/05/2022
WC070520	Data Acquisition	Temp Log	02/28/2021	03/28/2022
WC078508	Stopwatch	Second	03/13/2021	03/13/2022
WC059676	AC Power Supply	Voltage/Hz	NA	NA
WC070618	Dilution Water	Consumable	NA	NA
WC070619	Isopropyl Alcohol 70%	Consumable	NA	NA

ATTACHMENT TO TEST REPORT IEC 62368-1 3RD ED. U.S.A. NATIONAL DIFFERENCES AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY EQUIPMENT – PART 1: SAFETY REQUIREMENTS	
Differences according to	CSA/UL 62368-1:2019
Attachment Form No.	US&CA_ND_IEC623681B
Attachment Originator	UL(US)
Master Attachment	
Copyright © 2015 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.	

Clause	Requirement + Test	Result - Remark	Verdict
--------	--------------------	-----------------	---------

IEC 62368-1 - US and Canadian National Differences Special National Conditions based on Regulations and Other National Differences			
1.1	All equipment is to be designed to allow installation according to the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.		N/A
1.4	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.		N/A
4.1.17	<i>For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.</i>		N/A
	<i>For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.</i>		N/A
4.8	Lithium coin / button cell batteries have modified special construction and performance requirements.		N/A

EUT: ES&S Model DS300

Clause	Requirement + Test	Result - Remark	Verdict
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.5, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment		N/A
5.7.7	Equipment intended to receive telecommunication ringing signals complies with a special touch current measurement tests.		N/A
6.5.1	PS3 wiring outside a fire enclosure complies with single fault testing in B.4, or be current limited per one of the permitted methods.		N/A
Annex F (F.3.3.8)	Output terminals provided for supply of other equipment, except mains, supply are marked with a maximum rating or references to which equipment it is permitted to be connected.		N/A
Annex G (G.7.1)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
Annex G (G.7.3)	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		P
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
Annex G (G.7.5)	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		P
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V d.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.		N/A
Annex M	Battery packs for stationary applications comply with special component requirements.		N/A
Annex DVA (1)	Equipment intended for use in spaces used for environmental air are subjected to special flammability requirements for heat and visible smoke release.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. & Canadian Regulations.		N/A
	Baby monitors additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.		N/A
Annex DVA (5.6.3)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a min. flammability classification of V-1.		N/A
Annex DVA (10.3.1)	Equipment with lasers meets the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (10.5.1)	Equipment that produces ionizing radiation complies with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
Annex DVA (F.3.3.3)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."	Single phase	N/A
Annex DVA (F.3.3.5)	Equipment identified for ITE (computer) room installation is marked with the rated current		N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		P
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles complies with NEC 250.146(D) and CEC 10-112 and 10-906(8).	Ground provide	N/A
Annex DVA (G.4.3)	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non- interchangeable.		N/A
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
Annex DVA (Annex M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the ITE room remote power-off circuit.		N/A
Annex DVA (Q)	Wiring terminals intended to supply Class 2 outputs according to the NEC or CEC Part 1 are marked with the voltage rating and "Class 2" or equivalent; marking is located adjacent to the terminals and visible during wiring.		N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.		N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. Components required to comply include: appliance couplers, attachment plugs, battery back-up systems, battery packs, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), power supply cords, direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultra-capacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, data storage equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	Certified PSU provide	P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.	Not permanent device	N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are in accordance with the NEC/CEC.		N/A
Annex DVH (DVH.3.2)	Terminals for permanent wiring, including protective earthing terminals, are suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and are specially marked when specified.		N/A
Annex DVH (DVH.3.2)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
Annex DVH (DVH 5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, complies with special earthing, wiring, marking and installation instruction requirements.		N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.	Not connected telecommunication network	N/A

EUT: ES&S Model DS300

Clause	Requirement + Test	Result - Remark	Verdict
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

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

PHOTOGRAPHS

Photo 1



Photo 1: Overall front view of system

Photo 2



Photo 2: Overall rear view of system

Photo 3

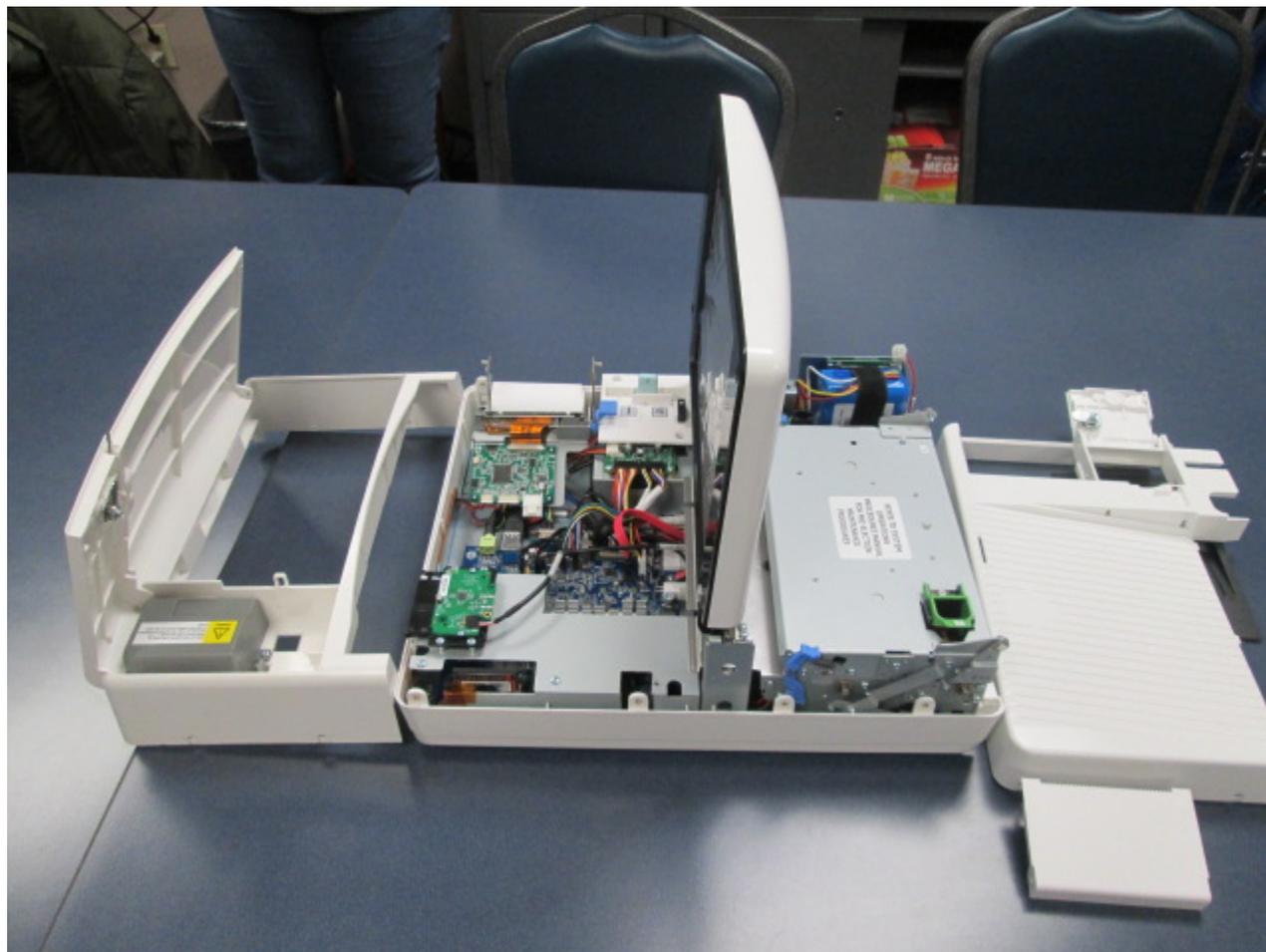


Photo 3: Internal view of system with covers removed

Photo 4



Photo 4: Internal view of system

Photo 5

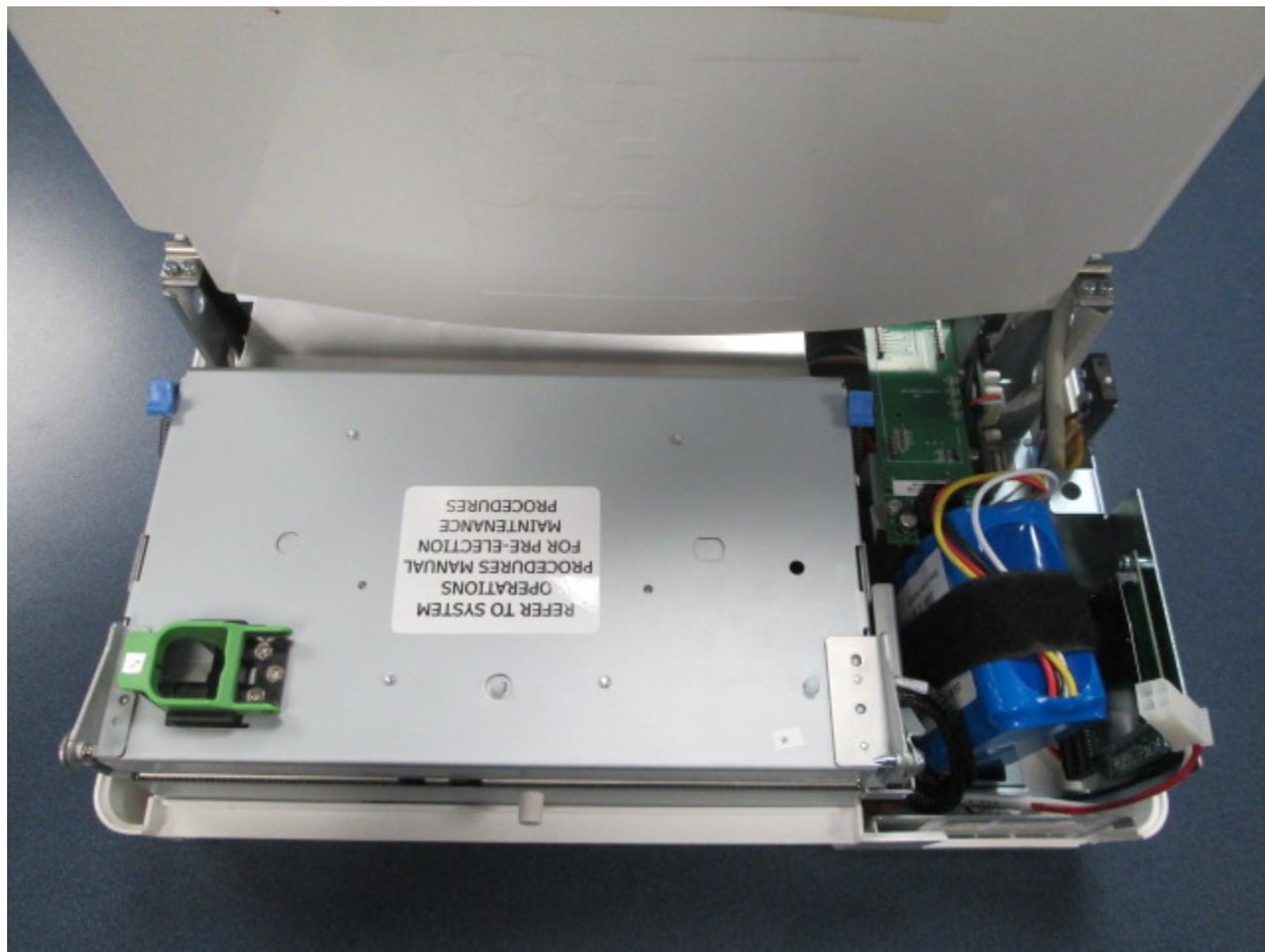


Photo 5: Internal view of system

Photo 6



WALL
 Wall Industries, Inc.
 Exeter, NH 03833 USA

AC ADAPTER
 PART NO.: EA11011C-240
 MODEL NO.: DTEA11011C-ESS
 AC INPUT: 100-240V~2.0A, 50-60Hz
 DC OUTPUT: 24V= 3.75A

CAUTION:
 FOR INDOOR USE ONLY
 I.T.E USE ONLY

DATE CODE:

13	14	15			1	2	3	4	5
1	2	3	4	5	6	7	8	9	0

UL US LISTED I.T.E POWER SUPPLY 41TJ E209833

TUV SUD

FCC

CE

CCC S&E

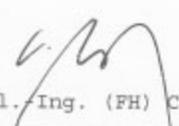
VI

RoHS

MADE IN CHINA
 1312 C3

Photo 6: AC/DC Power Adapter

AGENCY APPROVAL LICENSES AND COMPONENT SPECIFICATIONS

		Ref. Certif. No. JPTUV-071840
IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME		SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC
CB TEST CERTIFICATE		CERTIFICAT D'ESSAI OC
Product Produit	Lithium-ion Rechargeable Cell	
Name and address of the applicant Nom et adresse du demandeur	EVE Energy Co., Ltd. No. 36, Hui Feng 7th Road Zhongkai Hi-Tech Zone, Huizhou, Guangdong, P.R. China	
Name and address of the manufacturer Nom et adresse du fabricant	EVE Energy Co., Ltd. No. 36, Hui Feng 7th Road Zhongkai Hi-Tech Zone, Huizhou, Guangdong, P.R. China	
Name and address of the factory Nom et adresse de l'usine	EVE Energy Co., Ltd. No. 36, Hui Feng 7th Road Zhongkai Hi-Tech Zone, Huizhou, Guangdong, P.R. China	
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	3.6V, 2550mAh, 9.18Wh	
Trademark (if any) Marque de fabrique (si elle existe)		
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	N/A	
Model / Type Ref. Ref. de type	EVE ICR18650/26V	
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire, peuvent être indiqués sur la 2 ^{ème} page)		
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 62133:2012 National differences see test report	
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	17057919 001	
This CB Test Certificate is issued by the National Certification Body Ce Certificat d'essai OC est établi par l'Organisme National de Certification		
		TÜV Rheinland Japan Ltd. Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021 Japan Phone + 81 45 914-3888 Fax + 81 45 914-3354 Mail: info@jpn.tuv.com Web: www.tuv.com
Date: 09.05.2016	Signature:	 Dipl.-Ing. (FH) C. Padel

CERTIFICATE OF COMPLIANCE

Certificate Number 20161122-MH28717
Report Reference MH28717-20160520
Issue Date 2016-NOVEMBER-22

Issued to: EVE ENERGY CO LTD
75 Zone Zhongkai Hi Tech District
Huizhou, Guangdong 516006 China

This is to certify that representative samples of COMPONENT - LITHIUM BATTERIES
Secondary, Lithium-ion cells, Models ICR18650/22V,
ICR18650/20P, ICR18650/24V, ICR18650/25P,
ICR18650/26V, ICR18650/28V, ICR18650/29V

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

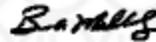
Standard(s) for Safety: UL 1642, Lithium Batteries
Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark:  may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions.

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.



Bruce Mahneholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutus/localna>



		Ref. Certif. No. SG PSB-BT-00798M1
IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME		
<h2 style="text-align: center;">CB TEST CERTIFICATE</h2>		
Product	Batteries (Li-Ion Rechargeable Battery)	
Name and address of the applicant	ZEUS BATTERY PRODUCTS 191 Covington Drive Bloomingdale IL 60108 USA	
Name and address of the manufacturer	Shenzhen BAK Energy Co., Ltd. 26/F, BAK Tech Buld, 9th Keyan RD, Hi-tech Park, Nanshan Dist, 518000 Shenzhen City, PEOPLE'S REPUBLIC OF CHINA	
Name and address of the factory	Shenzhen BAK Energy Co., Ltd. 26/F, BAK Tech Buld, 9th Keyan RD, Hi-tech Park, Nanshan Dist, 518000 Shenzhen City, PEOPLE'S REPUBLIC OF CHINA	
Ratings and principal characteristics	Nominal voltage: 18.5Vd.c. Rated capacity: 5200mAh	
Trade mark	ZEUS	
Model/type Ref.	PCL18650-5S2P ESS1	
Additional information (if necessary)	Certificate SG PSB-BT-00798 issued on 2018-06-05 is replaced by this version due to technical changes.	
A sample of the product was tested and found to be in conformity with	IEC 62133-2:2017	
as shown in the Test Report Ref. No. which forms part of this certificate	211-282180151-100	
This CB Test Certificate is issued by the National Certification Body		
CBS 086148 0006 Rev. 00		
Date, 2018-07-19 Page 1 of 1 TÜV SÜD PSB Pte Ltd • 1 Science Park Drive • Singapore 118221	 (Kenneth Lau)	 PSB Singapore

INSTALLATION INSTRUCTIONS



DS300[®] Operator's Guide

Firmware Version 3.0.0.0

Election Systems & Software, LLC
Manual Version 1.0. Released: February 2022
DS300_3'0'0'0_SOP



Table 2-1: DS300 Requirements and Specifications

	<p>Maintenance</p> <p>Repairs should be performed only by a qualified technician. For information about routine maintenance, refer to the <i>DS300 Maintenance Manual</i>.</p>
	<p>Caution</p> <p>The interior of the DS300 is not accessible to the user. Service operations inside the electrical enclosure must be performed only by trained and authorized personnel.</p>

2.2 Important Safety Instructions

Read and follow the safety recommendations in this section of the *DS300 Operator's Guide* to maintain proper safety measures when operating the unit.

2.2.1 Warning Symbols

Refer to [Table 1-1: Symbols Used in this Manual](#) for a complete list of informational symbols used throughout the *DS300 Operator's Guide*. Pay special attention to the Electrical and Warning symbols that appear next to the descriptions for any procedure that, if improperly executed, could harm the operator or damage the DS300.

<p>Electrical</p> 	<p>Any operation that requires opening the DS300 enclosure exposes users to dangerous high voltages. To reduce the risk of fire or shock, do not attempt to open the DS300 enclosure unless you receive proper training from an ES&S technician.</p>
<p>Warning</p> 	<p>Carefully read all warnings and proceed with caution if you choose to carry out these tasks.</p>

Read all of the instructions in this manual and use extra caution when you carry out any task that may pose a physical danger to yourself or the DS300.

2.2.2 Power Sources

Operate this product only from the type of power source indicated in this manual.

Chapter 2: Operational Environment

This chapter contains information about the environmental conditions under which the DS300 should be operated and stored. This chapter also contains information to help you safely operate the DS300.

The DS300 is designed to be operated while attached to a compatible ES&S ballot box. It is also possible to operate the DS300 when it is not attached to a ballot box (sitting on a table top, for example), but this does not provide privacy or security to the scanned ballots. Refer to [Chapter 5: Ballot Boxes](#) for more information.

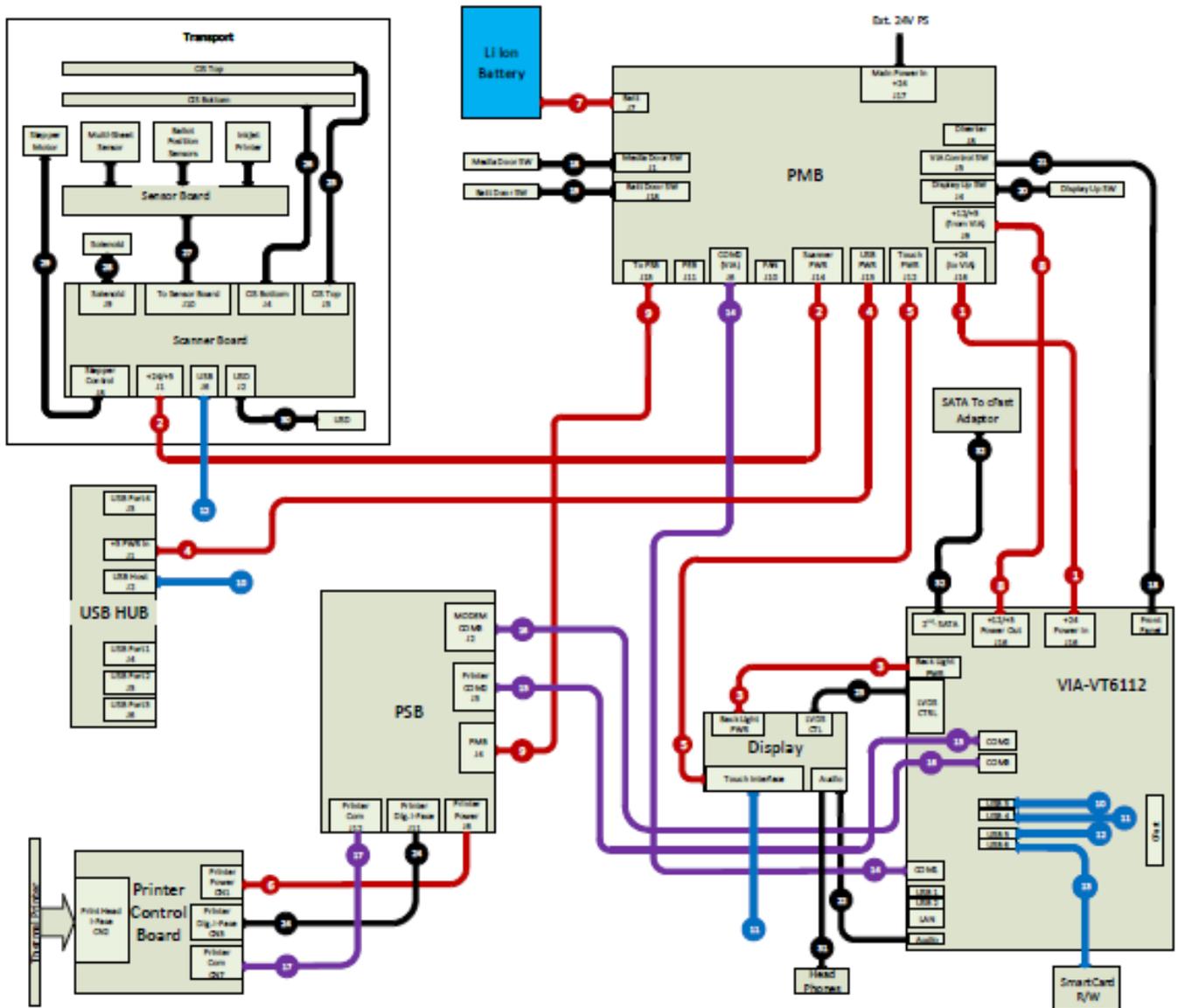
2.1 Requirements and Specifications for DS300 Operation

The DS300 was designed for indoor use. The following table identifies further requirements and specifications for the DS300.

Table 2-1: DS300 Requirements and Specifications

	<p>Indoor use only</p> <p>The DS300 is not intended for outdoor use.</p>
	<p>Ordinary protection</p> <p>The DS300 is not waterproof. Do not place containers with liquids such as coffee, water, or soda on or near the DS300. Do not operate the DS300 in an excessively damp environment. Store the DS300 in a cool, dry place.</p>
	<p>Accessibility</p> <p>To meet ADA requirements, place the DS300 on top of its ballot box at the polling place. Leave a minimum of 36 inches on each side of the DS300 for wheelchair accessibility.</p>
	<p>Electrical input rating</p> <p>The DS300's input rating is 120V~50/60 Hz 2A. The main supply voltage fluctuations are not to exceed plus or minus 10 percent of the rated supply voltage area. Consult a licensed electrical contractor for proper electrical connections.</p>
	<p>Environment</p> <p>Pollution Degree 2 for the ambient environment.</p>

SCHEMATIC DIAGRAMS AND SPECS



- 1 Power: PMB to VIA Board
- 2 Power: PMB to Scanner Board
- 3 Power-Backlight: VIA to LCD
- 4 Power: PMB to USB Hub
- 5 Power: PMB to Touch Interface
- 6 Power: PSB to Print Ctrl. Board
- 7 Power: PMB and Li Ion Battery
- 8 Power: VIA to PMB
- 9 Power and Discrete: PMB to PSB
- 10 USB: VIA to USB Board
- 11 USB: VIA to Touch Interface
- 12 USB: VIA to Scanner Board
- 13 USB: VIA to Smart Card R/W
- 14 RS-232: PMB – VIA Board
- 15 RS-232: VIA – PSB for Printer
- 16 RS-232: VIA – PSB for Cell Device
- 17 RS-232: PSB to Report Printer

- 18 Media Door I/O Switch
- 19 Battery Door I/O Switch
- 20 Display - LCD I/O Switch
- 21 VIA Control: PMB to VIA
- 22 Audio out: VIA to Speaker Board
- 23 Video: LVDS signals
- 24 Digital: Report Printer Control
- 25 Digital: CS Interface
- 26 Digital: CS Interface
- 27 Mix Sig: Sensor Board to Sensor Board
- 28 Solenoid Control: Stammer
- 29 Motor: Stepper Control
- 30 Sensor: Double Sheet Detector
- 31 Audio out
- 32 SATA: SATA Port to 2nd eSata Card

END OF REPORT