Test Report issued under the responsibility of:

TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number. .....:	SHES250400639901
Date of issue .....:	2025-04-17
Total number of pages.....:	65 pages
Name of Testing Laboratory preparing the Report.....:	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Applicant's name .....:	Hangzhou Hikvision Digital Technology Co., Ltd.
Address .....:	No. 555 Qianmo Road, Binjiang District, Hangzhou 310052, China
Test specification:	
Standard.....:	IEC 62368-1:2018
Test procedure .....:	CB Scheme
Non-standard test method .....:	N/A
TRF template used .....:	IECEE OD-2020-F1:2021, Ed.1.4
Test Report Form No. .....:	IEC62368_1E
Test Report Form(s) Originator ....:	UL(US)
Master TRF.....:	Dated 2022-04-14

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

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description .....:	Access Controller		
Trade Mark(s) .....:	HIKVISION		
Manufacturer.....:	Same as applicant		
Model/Type reference .....:	See page 9		
Ratings .....:	See page 9		
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒ **CB Testing Laboratory:**	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.		
Testing location/ address ..... :	588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China		
Tested by (name, function, signature) ..... :	Leo Wang Project Engineer		
Approved by (name, function, signature) .. :	Emilien Li Reviewer		
☐ **Testing procedure: CTF Stage 1:**			
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Approved by (name, function, signature) .. :			
☐ **Testing procedure: CTF Stage 2:**			
Testing location/ address ..... :			
Tested by (name, function, signature)			
Witnessed by (name, function, signature). :			
Approved by (name, function, signature) .. :			
☐ **Testing procedure: CTF Stage 3:**			
☐ **Testing procedure: CTF Stage 4:**			
Testing location/ address ..... :			
Tested by (name, function, signature) ..... :			
Witnessed by (name, function, signature). :			
Approved by (name, function, signature) .. :			
Supervised by (name, function, signature) :			

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

Attachment 1 – 17 pages of Photos documents;
Attachment 2 – 23 pages of European group differences and national differences;
Attachment 3 – 2 pages of Safety information in user manual.

Summary of testing:

The sample(s) tested complies with the requirements of IEC 62368-1:2018, EN IEC 62368-1:2020+A11: 2020.

Unless otherwise specified, the EUT with model DS-K2624X and DS-K2621X were selected as representative model for full testing.

Load condition:

Model DS-K2624X: READER POWER load 12VDC, 2A; LOCK POWER load 12VDC, 4A;

Model DS-K2621X: READER POWER load 12VDC, 2A; LOCK POWER load 12VDC, 1A

All test data are based on SGS CB test report SHES240601294401, dated on 2024-07-16 with the following changes and/or additions.

-Update test standard to IEC 62368-1:2018, EN IEC 62368-1:2020+A11: 2020.

After evaluation, no additional test was considered necessary.

Heating test:
Tma = 55°C (declared by manufacturer)

K-type thermocouple used for temperature measurement.

Tests performed (name of test and test clause):	**Testing location:**
☒ 4. General requirements ☒ 5. Electrically-caused injury ☒ 6. Electrically-caused fire ☒ 7. Injury caused by hazardous substances ☒ 8. Mechanically-caused injury ☒ 9. Thermal burn injury ☒10. Radiation ☒ Annex B. Normal operating condition tests, abnormal operating condition tests and single fault condition tests ☒ Annex F.3.9. Performance of Marking test ☒ Annex M Equipment containing batteries and their protection circuits ☒ Annex Q. Limited Power Source ☒ Annex T. Mechanical strength tests ☒ Annex V. Determination of accessible parts	SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. 588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Summary of compliance with National Differences (List of countries addressed):

1. EU Group Differences (EN IEC 62368-1:2020+A11:2020)
2. EU Special National Conditions, EU A-deviations: DE, DK, FI, FR, GB, IE, NO, SE

Explanation of used codes: DE=Germany, DK=Denmark, FI=Finland, FR=France, GB= United Kingdom, IE=Ireland, NO=Norway, SE=Sweden

☒ **The products fulfil the requirements of EN IEC 62368-1:2020+A11:2020.**

Use of uncertainty of measurement for decisions on conformity (decision rule) :

☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other:… (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:
The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.
IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective National Certification Body that own these marks.

Marking for model DS-K2624X

Marking for model DS-K2621X

Marking for model DS-K2622X

Remark:

1. The Height of CE logo shall not be less than 5 mm; Height of WEEE logo shall not be less than 7 mm.
2. As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the packagings before being placed on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.
3. The marking plates for other models are of the same pattern except for model name.

Test item particulars:	
Product group .....:	☒ end product ☐ built-in component
Classification of use by .....:	☒ Ordinary person ☐ Children likely present ☒ Instructed person ☒ Skilled person
Supply connection.....:	☒ AC mains ☐ DC mains ☐ 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 ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☒ permanent connection ☐ mating connector ☐ other: Not directly connected to mains
Considered current rating of protective device.....:	16 A for other area; 20A for north America Location: ☒ building ☐ equipment ☐ N/A
Equipment mobility .....:	☐ movable ☐ hand-held ☐ transportable ☐ direct plug-in ☒ stationary ☐ for building-in ☒ wall/ceiling-mounted ☐ SRME/rack-mounted ☐ other:
Overvoltage category (OVC) .....:	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other: Not directly connected to mains
Class of equipment .....:	☒ Class I ☐ Class II ☐ Class III ☐ Not classified ☐
Special installation location .....:	☒ N/A ☐ restricted access area ☐ outdoor location☐
Pollution degree (PD) .....:	☐ PD 1 ☒ PD 2 ☐ PD 3
Manufacturer's specified T_{ma}.....:	55 °C ☐ Outdoor: minimum °C
IP protection class .....:	☒ IPX0 ☐ IP___
Power systems .....:	☐ TN ☐ TT ☐ IT - V_{L-L} ☒ not AC mains
Altitude during operation (m) .....:	☒ 2000 m or less ☐ m
Altitude of test laboratory (m) .....:	☒ 2000 m or less ☐ 100 m
Mass of equipment (kg) .....:	3,5 kg for model DS-K2624X; 3,27kg for model DS-K2621X

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 .....:	Original: 2024-06-19
Date (s) of performance of tests.....:	Original: 2024-06-19 to 2024-06-25

General remarks:

"(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 ☒ comma / ☐ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....:	☒ **Yes** ☐ **Not applicable** Factory declaration letter.pdf, dated 2024-01-15.

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) .....:	1. Hangzhou Hikvision Technology Co., Ltd. No. 700, Dongliu Road, Binjiang District, Hangzhou City, Zhejiang, 310052, China 2. Hangzhou Hikvision Electronics Co., Ltd. No. 299, Qiushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou, Zhejiang, 311500, China 3. Chongqing Hikvision technology Co., Ltd. No. 118, Haikang Road, Area C, Jianqiao Industrial Park, Dadukou District, Chongqing, 401325, China

General product information and other remarks:

Product Description –

Functions	The equipment under test is a Class I Access Controller which powered by certified built-in power supply.
Material of enclosure	Metal
Model differences	DS-K2622X series and DS-K2624X series models have the same constructure, main board, power supply unit, but with the different output rating. DS-K2624X series and DS-K2621X have the same constructure, but with the different main board, power supply unit, and input & output rating. All models in each series are identical except model name.
Others	Indoor use only

Model list:

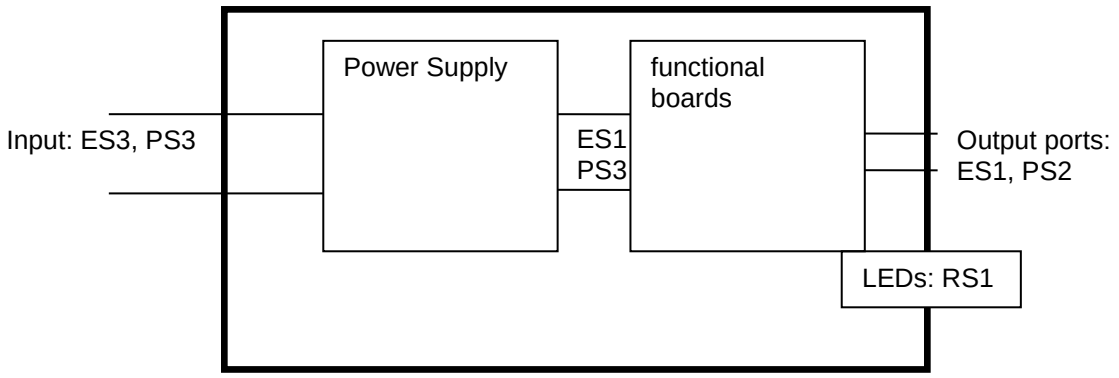
Rating: I/P: 100-240 V a.c., 50 Hz/60 Hz, 2,2 A; O/P: 12-R G: 12 V d.c., 2 A;12-D G: 12 V d.c., 2 A;		
DS-K2622X	DS-K2622XUHK	DS-K2622XCKV
DS-K2622XUVS	DS-K2622XKVO	DS-K2622XHUN
Rating: I/P: 100-240 V a.c., 50 Hz/60 Hz, 2,2 A; O/P: 12-R G: 12 V d.c., 2 A;12-D G: 12 V d.c., 4 A;		
DS-K2624X	DS-K2624XUHK	DS-K2624XCKV
DS-K2624XUVS	DS-K2624XKVO	DS-K2624XHUN
Rating: I/P: 100-240 V a.c., 50 Hz/60 Hz, 1,1 A; O/P: 12-R G: 12 V d.c., 2 A;12-D G: 12 V d.c., 1 A;		
DS-K2621X	DS-K2621XUHK	DS-K2621XCKV
DS-K2621XUVS	DS-K2621XKVO	DS-K2621XHUN

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS				
Clause	**Possible Hazard**			
5	Electrically-caused injury			
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
ES3: Power input	Ordinary person	Basic Insulation	Protective Earthing	Enclosure / reinforced insulation: Distance or double insulation distance
ES3: Internal Power Supply primary circuits	Ordinary person	N/A	N/A	N/A
ES1: Enclosure	Ordinary person	N/A	N/A	N/A
6	Electrically-caused fire			
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards		
		B	1st S	2nd S
PS3: Internal circuits and power input	Internal combustible materials	1. No ignition occurred. 2. No parts exceeding 90% of its spontaneous ignition temperature. 3. Combustible material outside fire enclosure is of min HB	1. PCB is of min V-1 material 2. All other components were mounted on min V-1 PCB or of min V-2 or small parts of combustible material less than 4g. 3. Fire enclosure provided	N/A

PS2: Output ports	Output	1. No ignition occurred. 2. No parts exceeding 90% of its spontaneous ignition temperature. 3. Combustible material outside fire enclosure is of min HB	1. PCB is of min V-1 material 2. All other components were mounted on min V-1 PCB or of min V-2 or small parts of combustible material less than 4g.	N/A
7	Injury caused by hazardous substances			
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards		
		B	S	R
Lithium coin battery	Ordinary person	N/A	N/A	Comply with Annex M
8	Mechanically-caused injury			
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards		
		B	S	R
MS1: Sharp edges and corners	Ordinary person	N/A	N/A	N/A
MS1: Equipment mass	Ordinary person	N/A	N/A	N/A
MS3: Wall-mounted	Ordinary person	N/A	N/A	Complies with clause 8.7.2
9	Thermal burn			
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
TS1: Accessible parts	Ordinary person	N/A	N/A	N/A
10	Radiation			
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards		
		B	S	R
RS1: LEDs only act as indicator	Ordinary person	N/A	N/A	N/A
Supplementary Information: “B” – Basic Safeguard; “S” – Supplementary Safeguard; “R” – Reinforced Safeguard				

ENERGY SOURCE DIAGRAM

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



Enclosure: ES1, MS1, TS1
Mass: MS1; Wall-mounted: MS3

■ **ES** ■ **PS** ■ **MS** ■ **TS** ■ **RS**

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies		P
4.1.2	Use of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard. Components not certified are used in accordance with their ratings and they comply with applicable parts of this standard and the relevant component standard. Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of this standard.	P
4.1.3	Equipment design and construction		P
4.1.4	Specified ambient temperature for outdoor use (°C) .....:		N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)		N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.3, T.4, T.5)	P
4.4.3.3	Drop tests		N/A
4.4.3.4	Impact tests	(See Clause T.6)	P
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests		N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests		N/A
4.4.3.9	Air comprising a safeguard		P
4.4.3.10	Accessibility, glass, safeguard effectiveness		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks		N/A
4.5	**Explosion**		P
4.5.1	General		P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions		N/A
4.6	**Fixing of conductors**		N/A
	Fix conductors not to defeat a safeguard		N/A
	Compliance is checked by test ..... :		N/A
4.7	**Equipment for direct insertion into mains socket–outlets**		N/A
4.7.2	Mains plug part complies with relevant standard .. :		N/A
4.7.3	Torque (Nm) ..... :		N/A
4.8	**Equipment containing coin/button cell batteries**		N/A
4.8.1	General		N/A
4.8.2	Instructional safeguard ..... :	Professional equipment	N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	**Likelihood of fire or shock due to entry of conductive object**		P
4.10	**Component requirements**		N/A
4.10.1	Disconnect Device		N/A
4.10.2	Switches and relays		N/A

5	**ELECTRICALLY-CAUSED INJURY**		P
5.2	**Classification and limits of electrical energy sources**		P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current limits .....:	(See appended table 5.2)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.3	Capacitance limits.....:	Approved internal power supply	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	Ringing 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
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits	Approved internal power supply	P
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
	Accessibility to outdoor equipment bare parts		P
5.3.2.2	Contact requirements		P
	Test with test probe from Annex V	Checked by V.1.2 (Figure V.1), V.1.3, V.1.6.	—
5.3.2.2 a)	Air gap – electric strength test potential (V) .....:		N/A
5.3.2.2 b)	Air gap – distance (mm) .....:		P
5.3.2.3	Compliance		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	**Insulation materials and requirements**		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Material is non-hygroscopic	Approved internal power supply	P
5.4.1.4	Maximum operating temperature for insulating materials.....:		N/A
5.4.1.5	Pollution degrees .....:	2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage.....:	Approved internal power supply	P
5.4.1.9	Insulating surfaces		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Approved internal power supply	P
5.4.1.10.2	Vicat test.....:		N/A
5.4.1.10.3	Ball pressure test .....:		N/A
5.4.2	Clearances	Evaluated in internal power supply report	P
5.4.2.1	General requirements		N/A
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance		N/A
	Temporary overvoltage .....:	2000Vpk	—
5.4.2.3	Procedure 2 for determining clearance	Evaluated in approved building-in PSU.	N/A
5.4.2.3.2.2	a.c. mains transient voltage.....:	2500Vpk	—
5.4.2.3.2.3	d.c. mains transient voltage .....:		—
5.4.2.3.2.4	External circuit transient voltage.....:		—
5.4.2.3.2.5	Transient voltage determined by measurement .....:		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test .....:	(See appended table 5.4.2.4)	P
5.4.2.5	Multiplication factors for clearances and test voltages .....:		N/A
5.4.2.6	Clearance measurement .....:	Evaluated in approved building-in PSU.	P
5.4.3	Creepage distances	evaluated in internal power supply report	P
5.4.3.1	General		P
5.4.3.3	Material group .....:	IIIb	—
5.4.3.4	Creepage distances measurement .....:	Evaluated in approved building-in PSU.	N/A
5.4.4	Solid insulation	Evaluated in approved building-in PSU.	P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation .....:	Evaluated in approved building-in PSU.	P
5.4.4.3	Insulating compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices	Evaluated in approved building-in PSU.	P
5.4.4.5	Insulating compound forming cemented joints		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6	Thin sheet material	Evaluated in approved building-in PSU.	P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs) .....:		P
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material ..... :		N/A
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, E_P, K_R, d, V_{PW} (V) ..... :		N/A
	Alternative by electric strength test, tested voltage (V), K_R ..... :		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
5.4.5.3	Insulation resistance (MΩ)..... :		N/A
	Electric strength test .....:		N/A
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		P
5.4.8	Humidity conditioning	approved internal power supply for solid insulation	P
	Relative humidity (%), temperature (°C), duration (h) ..... :	93%, 40°C, 120h	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for type test of solid insulation.....:		P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from 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 ..... :		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.2.3	Steady-state test ..... :		—
5.4.10.3	Verification for insulation breakdown for impulse test ..... :		—
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V) ..... :		—
	Nominal voltage U_{peak} (V) ..... :		—
	Max increase due to variation ΔU_{sp} ..... :		—
	Max increase due to ageing ΔU_{sa} ..... :		—
5.4.11.3	Test method and compliance ..... :		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid ..... :		N/A
5.4.12.3	Compatibility of an insulating liquid ..... :		N/A
5.4.12.4	Container for insulating liquid ..... :		N/A
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 ..... :	Evaluated in approved building-in PSU.	P
5.5.3	Transformers	Evaluated in approved building-in PSU.	P
5.5.4	Optocouplers		P
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPDs	Evaluated in approved building-in PSU.	P
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable ..... :		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA) ..... :		—
5.6	**Protective conductor**		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.2	Requirement for protective conductors	Evaluated in internal power supply report.	P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation		P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm^2) ..... :	min. 0,75	—
	Protective earthing conductor serving as a reinforced safeguard		P
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2). ..... :	min. 0,75, Min. 3,5mm	—
5.6.4.2	Protective current rating (A)..... :	16A, 20A	P
5.6.5	Terminals for protective conductors		P
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :	min. 0,75mm2, Min. 4mm	P
	Terminal size for connecting protective bonding conductors (mm) .....:		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method..... :		N/A
5.6.6.3	Resistance (Ω) or voltage drop..... :		N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm^2)..... :		N/A
	Class II with functional earthing marking ..... :		N/A
	Appliance inlet cl & cr (mm)..... :		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	Evaluated in internal power supply report	P
5.7.2.2	Measurement of voltage	(See appended table 5.7.4)	P
5.7.3	Equipment set-up, supply connections and earth connections		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.4	Unearthed accessible parts ..... :		N/A
5.7.5	Earthed accessible conductive parts ..... :	See table 5.7.5	P
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA)..... :		N/A
	Instructional Safeguard..... :		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA) ..... :		N/A
	b) Equipment connected to unearthed external circuits, current (mA) ..... :		N/A
5.8	**Backfeed safeguard in battery backed up supplies**		N/A
	Mains terminal ES.....:		N/A
	Air gap (mm).....:		N/A

6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	**Classification of PS and PIS**		P
6.2.2	Power source circuit classifications.....:	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS .....:	(See note to appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS .....:	The internal circuit is considered as resistive PIS without test.	P
6.3	**Safeguards against fire under normal operating and abnormal operating conditions**		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials ..... :	(See appended table B.1.5 and B.3)	P
	Combustible materials outside fire enclosure .....:		P
6.4	**Safeguards against fire under single fault conditions**		P
6.4.1	Safeguard method	Control fire spread used.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	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		P
6.4.5.2	Supplementary safeguards		P
6.4.6	Control of fire spread in PS3 circuits		P
6.4.7	Separation of combustible materials from a PIS		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		P
6.4.8.2	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure		P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings		P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top openings and properties		P
	Openings dimensions (mm)..... :	No opening.	P
6.4.8.3.4	Bottom openings and properties		P
	Openings dimensions (mm)..... :	The bottom openings will eventually be blocked by the wire.	P
	Flammability tests for the bottom of a fire enclosure	(See Clause S.3)	P
	Instructional Safeguard.....:		N/A
6.4.8.3.5	Side openings and properties		P
	Openings dimensions (mm)..... :	No opening.	P
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)..... :		P
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating ..... :	Metal enclosure	P
6.4.9	Flammability of insulating liquid.....:	Control fire spread.	N/A
6.5	**Internal and external wiring**		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.5.1	General requirements		P
6.5.2	Requirements for interconnection to building wiring ..... :	Acceptance of components and component requirements from IEC 60065 and 60950-1.	N/A
6.5.3	Internal wiring size (mm^2) for socket-outlets..... :		N/A
6.6	**Safeguards against fire due to the connection to additional equipment**		P
7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		P
7.2	**Reduction of exposure to hazardous substances**		N/A
7.3	**Ozone exposure**		N/A
7.4	**Use of personal safeguards or personal protective equipment (PPE)**		N/A
	Personal safeguards and instructions ..... :		—
7.5	**Use of instructional safeguards and instructions**		N/A
	Instructional safeguard (ISO 7010)..... :		—
7.6	**Batteries and their protection circuits**		P
8	**MECHANICALLY-CAUSED INJURY**		P
8.2	**Mechanical energy source classifications**		P
8.3	**Safeguards against mechanical energy sources**		P
8.4	**Safeguards against parts with sharp edges and corners**		N/A
8.4.1	Safeguards		N/A
	Instructional Safeguard.....:		N/A
8.4.2	Sharp edges or corners	No sharp edges or corners, MS1	N/A
8.5	**Safeguards against moving parts**		N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts		N/A
	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard.....:		N/A
8.5.4	Special categories of equipment containing moving parts	Not such equipment.	N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm) .....:		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly .....:		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts .....:		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N).....:		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps	No such part.	N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm) .....:		N/A
8.6	**Stability of equipment**		N/A
8.6.1	General	Equipment mass: MS1	N/A
	Instructional safeguard.....:	Fixed equipment.	N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test .....:		N/A
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm) .....:		
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test.....:		N/A
8.7	**Equipment mounted to wall, ceiling or other structure**		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.7.1	Mount means type .....:		P
8.7.2	Test methods	Test 1	P
	Test 1, additional downwards force (N).....:	Test 1: additional downwards force of 103N for model DS-K2624X& 97N for model DS-K2621X is applied to the gravity centre for 1 min; additional horizontal force of 50N is applied laterally for 1 min.	P
	Test 2, number of attachment points and test force (N).....:		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm).....:		N/A
8.8	**Handles strength**		N/A
8.8.1	General	No such part.	N/A
8.8.2	Handle strength test		N/A
	Number of handles.....:		--
	Force applied (N) .....:		--
8.9	**Wheels or casters attachment requirements**		N/A
8.9.2	Pull test		N/A
8.10	**Carts, stands and similar carriers**		N/A
8.10.1	General	No such part.	N/A
8.10.2	Marking and instructions.....:		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N) .....:		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N) .....:		--
8.10.6	Thermoplastic temperature stability		N/A
8.11	**Mounting means for slide-rail mounted equipment (SRME)**		N/A
8.11.1	General	No such part.	N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard.....:		N/A
8.11.3	Mechanical strength test		N/A
8.11.3.1	Downward force test, force (N) applied.....:		N/A
8.11.3.2	Lateral push force test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	**Telescoping or rod antennas**		N/A
	Button/ball diameter (mm) .....:		--
9	**THERMAL BURN INJURY**		P
9.2	**Thermal energy source classifications**		P
9.3	**Touch temperature limits**		P
9.3.1	Touch temperatures of accessible parts .....:	(See appended table)	P
9.3.2	Test method and compliance		P
9.4	**Safeguards against thermal energy sources**		N/A
9.5	**Requirements for safeguards**		N/A
9.5.1	Equipment safeguard		N/A
9.5.2	Instructional safeguard.....:		N/A
9.6	**Requirements for wireless power transmitters**		N/A
9.6.1	General		N/A
9.6.2	Specification of the foreign objects		N/A
9.6.3	Test method and compliance .....:		N/A
10	**RADIATION**		P
10.2	**Radiation energy source classification**		P
10.2.1	General classification		P
	Lasers ..... :		--
	Lamps and lamp systems ..... :	RS1 for LEDs only as indicators.	--
	Image projectors ..... :		--
	X-Ray ..... :		--
	Personal music player ..... :		--
10.3	**Safeguards against laser radiation**		N/A
	The standard(s) equipment containing laser(s) comply .....:		N/A
10.4	**Safeguards against optical radiation from lamps and lamp systems (including LED types)**		P
10.4.1	General requirements	RS1 for LEDs only as indicators.	P
	Instructional safeguard provided for accessible		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	radiation level needs to exceed		
	Risk group marking and location .....:		N/A
	Information for safe operation and installation		N/A
10.4.2	Requirements for enclosures		N/A
	UV radiation exposure .....:		N/A
10.4.3	Instructional safeguard ..... :		N/A
10.5	**Safeguards against X-radiation**		N/A
10.5.1	Requirements		N/A
	Instructional safeguard for skilled persons ..... :		--
10.5.3	Maximum radiation (pA/kg)..... :		--
10.6	**Safeguards against acoustic energy sources**		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output $L_{Aeq,T}$, dB(A).....:		N/A
	Unweighted RMS output voltage (mV).....:		N/A
	Digital output signal (dBFS).....:		N/A
10.6.3	Requirements for dose-based systems		N/A
10.6.3.1	General requirements		N/A
10.6.3.2	Dose-based warning and automatic decrease		N/A
10.6.3.3	Exposure-based warning and requirements		N/A
	30 s integrated exposure level (MEL30) .....:		N/A
	Warning for MEL ≥ 100 dB(A) .....:		N/A
10.6.4	Measurement methods		N/A
10.6.5	Protection of persons		N/A
	Instructional safeguards ..... :		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	Corded listening devices with analogue input		N/A
	Listening device input voltage (mV)..... :		N/A
10.6.6.2	Corded listening devices with digital input		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) .....:		N/A
10.6.6.3	Cordless listening devices		N/A
	Max. acoustic output $L_{Aeq,T}$, dB(A) .....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.1	**General**		P
B.1.5	Temperature measurement conditions	(See appended table B.1.5)	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.....:	No audio signal input.	N/A
B.2.3	Supply voltage and tolerances		N/A
B.2.5	Input test .....:	(See appended table B.2.5)	P
B.3	**Simulated abnormal operating conditions**		P
B.3.1	General		P
B.3.2	Covering of ventilation openings		N/A
	Instructional safeguard.....:		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals	(See appended table B.3, B.4)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions.....:	(See appended table B.3, B.4)	P
B.4	**Simulated single fault conditions**		P
B.4.1	General		P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test		N/A
B.4.4	Functional insulation		N/A
B.4.4.1	Short circuit of clearances for functional insulation		N/A
B.4.4.2	Short circuit of creepage distances for functional insulation		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		P
B.4.6	Short circuit or disconnection of passive components		P
B.4.7	Continuous operation of components		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
B.4.8	Compliance during and after single fault conditions .....:	(See appended table B.3, B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	(See Annex M)	P
C	**UV RADIATION**		N/A
C.1	**Protection of materials in equipment from UV radiation**		N/A
C.1.2	Requirements		N/A
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 test		N/A
C.2.4	Xenon-arc light-exposure test		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	**Electrical energy source classification for audio signals**		N/A
	Maximum non-clipped output power (W) .....:	No audio signal input.	--
	Rated load impedance (Ω) .....:		--
	Open-circuit output voltage (V) .....:		--
	Instructional safeguard.....:		--
E.2	**Audio amplifier normal operating conditions**		N/A
	Audio signal source type.....:		--
	Audio output power (W) .....:		--
	Audio output voltage (V) .....:		--
	Rated load impedance (Ω) .....:		--
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		N/A
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	**General**		P
	Language .....:	English	--
F.2	**Letter symbols and graphical symbols**		P
F.2.1	Letter symbols according to IEC60027-1		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		P
F.3	**Equipment markings**		P
F.3.1	Equipment marking locations	Exterior of equipment.	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification .....:	HIKVISION	P
F.3.2.2	Model identification .....:	See model table.	P
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage .....:	AC	P
F.3.3.4	Rated voltage .....:	100-240VAC	P
F.3.3.5	Rated frequency.....:	50/60Hz	P
F.3.3.6	Rated current or rated power .....:	4A/1A/2A	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device	No such part.	N/A
F.3.5	Terminals and operating devices		N/A
F.3.5.1	Mains appliance outlet and socket-outlet markings .....:		N/A
F.3.5.2	Switch position identification marking .....:		N/A
F.3.5.3	Replacement fuse identification and rating markings .....:	Approved in internal power supply.	P
	Instructional safeguards for neutral fuse.....:		N/A
F.3.5.4	Replacement battery identification marking.....:		N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		P
F.3.6.1.1	Protective earthing conductor terminal .....:		P
F.3.6.1.2	Protective bonding conductor terminals .....:		P
F.3.6.2	Equipment class marking.....:		N/A
F.3.6.3	Functional earthing terminal marking.....:		N/A
F.3.7	Equipment IP rating marking.....:	IPX0	N/A
F.3.8	External power supply output marking.....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings	The label was subject to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. with cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	P
F.4	**Instructions**		P
	a) Information prior to installation and initial use		P
	b) Equipment for use in locations where children not likely to be present		P
	c) Instructions for installation and interconnection		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		P
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		P
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		P
G	**COMPONENTS**		P
G.1	**Switches**		N/A
G.1.1	General		N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	**Relays**		N/A
G.2.1	Requirements		N/A
G.2.2	Overload test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	**Protective devices**		P
G.3.1	Thermal cut-offs	Considered in AC Certified Power Supply.	P
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		P
G.3.4	Overcurrent protection devices	Certified internal power supply.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
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**		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration .....:		P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
G.5	**Wound components**		P
G.5.1	Wire insulation in wound components	approved internal power supply	P
G.5.1.2	Protection against mechanical stress		N/A
G.5.2	Endurance test		P
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle) .....:		--
	Test temperature (°C) .....:		--
G.5.2.3	Wound components supplied from the mains		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method .....:	Considered in Certified Power Supply.	P
	Position .....:		N/A
	Method of protection .....:		N/A
G.5.3.2	Insulation	Considered in Certified Power Supply.	N/A
	Protection from displacement of windings .....:		--
G.5.3.3	Transformer overload tests		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding temperatures		N/A
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter .....:		--
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation .....:		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors		P
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days) .....:		--
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature .....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.6.3	Alternative method		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**		P
G.6.1	General	Approved internal power supply.	P
G.6.2	Enamelled winding wire insulation		N/A
G.7	**Mains supply cords**		P
G.7.1	General requirements		P
	Type .....:	See table 4.1.2	--
G.7.2	Cross sectional area (mm^2 or AWG).....:	See table 4.1.2	P
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) .....:		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) .....:		N/A
G.7.3.2.4	Strain relief and cord anchorage 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	Test method and compliance		N/A
	Overall diameter or minor overall dimension, *D* (mm).....:		--
	Radius of curvature after test (mm) .....:		--
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	**Varistors**		P
G.8.1	General requirements	Building-in power supply is separately certified	N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.8.2	Safeguards against fire		N/A
G.8.2.1	General		N/A
G.8.2.2	Varistor overload test		N/A
G.8.2.3	Temporary overvoltage test		N/A
G.9	**Integrated circuit (IC) current limiters**		N/A
G.9.1	Requirements		N/A
	IC limiter output current (max. 5A) ..... :		--
	Manufacturers' defined drift ..... :		--
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	**Resistors**		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	**Capacitors and RC units**		P
G.11.1	General requirements	Building-in power supply is separately certified	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**		P
	Optocouplers comply with IEC 60747-5-5 with specifics	Building-in power supply is separately certified	N/A
	Type test voltage $V_{ini,a}$ ..... :	Min. 4000	--
	Routine test voltage, $V_{ini,b}$ ..... :	Min. 4000	--
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
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation..... :		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	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.13.6.2	Test method and compliance		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements .....:		N/A
G.15	**Pressurized liquid filled components**		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
G.16.1	Condition for fault tested is not required		N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test .....:		--
	Mains voltage that impulses to be superimposed on .....:		--
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test.....:		--
G.16.3	Capacitor discharge test .....:		N/A
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	Ringing 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		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V).....:		N/A
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		N/A
J.1	**General**		N/A
	Winding wire insulation .....:		--
	Solid round winding wire, diameter (mm) .....:		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm^2).....:		N/A
J.2/J.3	Tests and Manufacturing	(See separate test report)	--
K	**SAFETY INTERLOCKS**		N/A
K.1	**General requirements**		N/A
	Instructional safeguard.....:		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
K.5.1	Under single fault condition		N/A
K.6	**Mechanically operated safety interlocks**		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance.....:		N/A
K.7	**Interlock circuit isolation**		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm) .....:		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm) .....:		N/A
	Electric strength test before and after the test of K.7.2.....:		N/A
K.7.2	Overload test, Current (A).....:		N/A
K.7.3	Endurance test		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
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**	AC inlet as the disconnect device	P
L.5	**Three-phase equipment**		N/A
L.6	**Switches as disconnect devices**		N/A
L.7	**Plugs as disconnect devices**		N/A
L.8	**Multiple power sources**		N/A
	Instructional safeguard.....:		N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		P
M.1	**General requirements**		P
M.2	**Safety of batteries and their cells**		P
M.2.1	Batteries and their cells comply with relevant IEC standards .....:	(See table 4.1.2)	P
M.3	**Protection circuits for batteries provided within the equipment**		P
M.3.1	Requirements		P
M.3.2	Test method		P
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		P
	Unintentional charging of a non-rechargeable battery		P
	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance	(See appended table M.3)	P
M.4	**Additional safeguards for equipment containing a portable secondary lithium battery**		N/A
M.4.1	General	The average resistance of the lithium coin battery is larger than 3Ω according to IEC 62133-2 Annex D.	N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance .....:		N/A
M.4.3	Fire enclosure .....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%): .....:		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	**Risk of burn due to short-circuit during carrying**		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	**Safeguards against short-circuits**		P
M.6.1	External and internal faults	Certified coin battery.	P
M.6.2	Compliance		P
M.7	**Risk of explosion from lead acid and NiCd batteries**		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate.....:		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m^3/h) .....:		N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%) .....:		N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate .....:		N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%) .....:		N/A
M.7.4	Marking .....:		N/A
M.8	**Protection against internal ignition from external spark sources of batteries with aqueous electrolyte**		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V_Z (m^3/s).....:		N/A
M.8.2.3	Correction factors.....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.8.2.4	Calculation of distance *d* (mm) .....:		N/A
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	Sufficient information used.	P
	Instructional safeguard.....:	Refer to user manual	P
N	**ELECTROCHEMICAL POTENTIALS**		N/A
	Material(s) used .....:	Closed loop connectors: Tin plated (Sn) Nuts and stud terminals: Steel and Zinc plated Chassis: Al/Fe	N/A
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Value of *X* (mm) .....:	Refer to the certified power supply.	N/A
P	**SAFEGUARDS AGAINST CONDUCTIVE OBJECTS**		P
P.1	**General**		P
P.2	**Safeguards against entry or consequences of entry of a foreign object**		P
P.2.1	General		P
P.2.2	Safeguards against entry of a foreign object		P
	Location and Dimensions (mm) .....:	No openings.	—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metalized plastic parts .....:		N/A
P.2.3.2	Consequence of entry test.....:		N/A
P.3	**Safeguards against spillage of internal liquids**		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	**Metallized coatings and adhesives securing parts**		N/A
P.4.1	General		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
P.4.2	Tests		N/A
	Conditioning, T_C (°C) ..... :		N/A
	Duration (weeks) ..... :		N/A
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		P
Q.1	**Limited power sources**		P
Q.1.1	Requirements		P
	a) Inherently limited output	Signal ports	P
	b) Impedance limited output		N/A
	c) Regulating network limited output		N/A
	d) Overcurrent protective device limited output		P
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance ..... :	See table Q.1.	P
	Current rating of overcurrent protective device (A) ..... :		N/A
Q.2	**Test for external circuits – paired conductor cable**		N/A
	Maximum output current (A) ..... :		N/A
	Current limiting method ..... :		N/A
R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	**General**		N/A
R.2	**Test setup**		N/A
	Overcurrent protective device for test ..... :		N/A
R.3	**Test method**		N/A
	Cord/cable used for test ..... :		N/A
R.4	**Compliance**		N/A
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
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 ..... :		N/A
	Wall thickness (mm) ..... :		N/A
	Conditioning (°C) ..... :		N/A
	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

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
S.2	**Flammability test for fire enclosure and fire barrier integrity**		N/A
	Samples, material ..... :		N/A
	Wall thickness (mm)..... :		N/A
	Conditioning (°C)..... :		N/A
S.3	**Flammability test for the bottom of a fire enclosure**		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples ..... :		N/A
	Wall thickness (mm)..... :		N/A
S.4	**Flammability classification of materials**		N/A
S.5	**Flammability test for fire enclosure materials of equipment with a steady state power exceeding 4 000 W**		N/A
	Samples, material ..... :		N/A
	Wall thickness (mm)..... :		N/A
	Conditioning (°C)..... :		N/A
T	**MECHANICAL STRENGTH TESTS**		P
T.1	**General**		P
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 ..... :**	(See appended table T.5)	P
T.6	**Enclosure impact test**	(See appended table T.6)	P
	Fall test		P
	Swing test		P
T.7	**Drop test ..... :**		N/A
T.8	**Stress relief test ..... :**		N/A
T.9	**Glass Impact Test..... :**		N/A
T.10	**Glass fragmentation test**		N/A
	Number of particles counted ..... :		N/A
T.11	**Test for telescoping or rod antennas**		N/A
	Torque value (Nm) ..... :		N/A
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION**		N/A
U.1	**General**		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Instructional safeguard **:**		N/A
U.2	**Test method and compliance for non-intrinsically protected CRTs**		N/A
U.3	**Protective screen**		N/A
V	**DETERMINATION OF ACCESSIBLE PARTS**		P
V.1	**Accessible parts of equipment**		P
V.1.1	General		P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		P
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
V.2	**Accessible part criterion**		P
X	**ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)**		N/A
	Clearance ..... :	(See appended table X)	N/A
Y	**CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES**		N/A
Y.1	**General**		N/A
Y.2	**Resistance to UV radiation**		N/A
Y.3	**Resistance to corrosion**		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by.....:		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure .....:		N/A
Y.3.5	Compliance		N/A
Y.4	**Gaskets**		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A
	Alternative test methods .....:		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
Y.5	**Protection of equipment within an outdoor enclosure**		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3 .....:		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	**Mechanical strength of enclosures**		N/A
Y.6.1	General		N/A
Y.6.2	Impact test.....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.2	**TABLE: Classification of electrical energy sources**						P
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters				ES Class
			U (V)	I (mA)	Type[1)]	Additional Info [2)]	
--	--	--	--	--	--	--	--
Supplementary information:							
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.							
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.							
Evaluated in internal power supply report							

5.4.1.8	**TABLE: Working voltage measurement**				N/A
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments	
--	--	--	--	--	
--	--	--	--	--	
Supplementary information:					

5.4.1.10.2	**TABLE: Vicat softening temperature of thermoplastics**			N/A
Method.....:	ISO 306 / B50			
Object/ Part No./Material	Manufacturer/trademark	Thickness (mm)	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	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)	
--	--	--	--	--	
--	--	--	--	--	
Supplementary information:					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.2, 5.4.3	**TABLE: Minimum Clearances/Creepage distance**							P
Clearance (cl) and creepage distance (cr) at/of/between:	U_p (V)	U_{rms} (V)	Freq [1] (Hz)	Required cl (mm)	cl (mm)	E.S. [2] (V)	Required cr (mm)	cr (mm)
Primary to Internal plastic part	420	250	--	2,3	>10	--	2,5	>10
Supplementary information:								
1) Only for frequency above 30 kHz 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)								

5.4.4.2	**TABLE: Minimum distance through insulation**				P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)	
Primary circuit and metal enclosure	2500Vpk	RI	2,3	>10	
Supplementary information:					

5.4.4.9	**TABLE: Solid insulation at frequencies >30 kHz**						N/A
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)	
--	--	--	--	--	--	--	
Supplementary information:							

5.4.9	**TABLE: Electric strength tests**			P
Test voltage applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No	
L/N and metal enclosure	DC	2500	No	
L/N to Reader Power	DC	4000	No	
Supplementary information:				
EUT **DS-K2624X** test with power supply LRS-100-12				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.9	**TABLE: Electric strength tests**			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
L/N and metal enclosure		DC	2500	No
L/N to Reader Power		DC	4000	No
Supplementary information:				
EUT **DS-K2624X** test with power supply PMT-12V100W2BA				

5.4.9	**TABLE: Electric strength tests**			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
L/N and metal enclosure		DC	2500	No
L/N to Reader Power		DC	4000	No
Supplementary information:				
EUT **DS-K2621X** test with power supply LRS-50-12				

5.4.9	**TABLE: Electric strength tests**			P
Test voltage applied between:		Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No
L/N and metal enclosure		DC	2500	No
L/N to Reader Power		DC	4000	No
Supplementary information:				
EUT **DS-K2621X** test with power supply PMT-12V50W2BA				

5.5.2.2	**TABLE: Stored discharge on capacitors**				P
Location	Supply voltage (V)	Operating and fault condition [1)]	Switch position	Measured voltage (Vpk)	ES Class
--	--	--	--	--	--
Supplementary information:					
X-capacitors installed for testing: [ ] bleeding resistor rating: [ ] ICX: 1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit Considered in power supply.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.6.6	**TABLE: Resistance of protective conductors and terminations**				P
Location		Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
PE to metal enclosure (EUT **DS-K2624X** test with Power supply Model: LRS-100-12)		32	2	1,184	0,037
PE to metal enclosure (EUT **DS-K2624X** test with Power supply Model: LRS-100-12)		40	2	1,520	0,038
PE to metal enclosure (EUT **DS-K2624X** test with Power supply Model: PMT-12V100W2BA)		32	2	1,184	0,037
PE to metal enclosure (EUT **DS-K2624X** test with Power supply Model: PMT-12V100W2BA)		40	2	1,520	0,038
PE to metal enclosure (EUT **DS-K2621X** test with Power supply Model: PMT-12V50W2BA)		32	2	1,184	0,037
PE to metal enclosure (EUT **DS-K2621X** test with Power supply Model: PMT-12V50W2BA)		40	2	1,520	0,038
PE to metal enclosure (EUT **DS-K2621X** test with Power supply Model: LRS-50-12)		32	2	1,184	0,037
PE to metal enclosure (EUT **DS-K2621X** test with Power supply Model: LRS-50-12)		40	2	1,520	0,038
Supplementary information:					

5.7.4	**TABLE: Unearthed accessible parts**					N/A
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V_{rms} or V_{pk})	Current (A_{rms} or A_{pk})	Freq. (Hz)	
--	--	--	--	--	--	--
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.7.5	TABLE: Earthed accessible conductive part			P
Supply voltage (V) ..... :	264Va.c./60Hz			
Phase(s) ..... :	[ ] Single Phase; [ ] Three Phase: [ ] Delta [ ] Wye			
Power Distribution System ..... :	[X] TN [X]TT [ ] IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
Power Supply:PMT-12V100W2BA				
L/N and metal enclosure	--	0,208mApk	Normal	
L/N and metal enclosure	--	0,210mApk	Reverse	
Power Supply: LRS-100-12				
L/N and metal enclosure	--	0,426mApk	Normal	
L/N and metal enclosure	--	0,412mApk	Reverse	
Supplementary Information:				
EUT model: **DS-K2624X**				

5.7.5	TABLE: Earthed accessible conductive part			P
Supply voltage (V) ..... :	264Va.c./60Hz			
Phase(s) ..... :	[ ] Single Phase; [ ] Three Phase: [ ] Delta [ ] Wye			
Power Distribution System ..... :	[X] TN [X]TT [ ] IT			
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)	Comment	
Power Supply:PMT-12V100W2BA				
L/N and metal enclosure	--	0,154mApk	Normal	
L/N and metal enclosure	--	0,142mApk	Reverse	
Power Supply: LRS-100-12				
L/N and metal enclosure	--	0,243mApk	Normal	
L/N and metal enclosure	--	0,244mApk	Reverse	
Supplementary Information:				
EUT model: **DS-K2621X**				

5.8	TABLE: Backfeed safeguard in battery backed up supplies					N/A
Location	Supply voltage (V)	Operating and fault condition	Time (s)	Open-circuit voltage (V)	Touch current (A)	ES Class
--	--	--	--	--	--	--
Supplementary information:						
Abbreviation: SC= short circuit, OC= open circuit						

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	TABLE: Power source circuit classifications					P
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power*) (W)	Time (S)	PS class
Power input and all internal circuits	--	--	--	--	--	PS3 without test
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit (*) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3. EUT DS-K2621X and DS-K2624X has the same result.						

6.2.3.1	TABLE: Determination of Arcing PIS			P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No
--	--	--	--	--
Supplementary information:				
All primary circuits are considered as Arcing PIS without test.				

6.2.3.2	TABLE: Determination of resistive PIS		P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No
All circuits	--	--	Yes
Supplementary information:			
Abbreviation: SC= short circuit; OC= open circuit. All circuits are considered as resistive PIS without test.			

8.5.5	TABLE: High pressure lamp			N/A
Lamp manufacturer	Lamp type	Explosion method	Longest axis of glass particle (mm)	Particle found beyond 1 m Yes / No
--	--	--	--	--
Supplementary information:				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

9.6	**TABLE: Temperature measurements for wireless power transmitters**								N/A
Supply voltage (V)..... :									
Max. transmit power of transmitter (W)..... :									
	w/o receiver and direct contact		with receiver and direct contact		with receiver and at distance of 2 mm		with receiver and at distance of 5 mm		
Foreign objects	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	Object (°C)	Ambient (°C)	
--	--	--	--	--	--	--	--	--	
Supplementary information:									

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V) .....:	90VAC/60Hz	264VAC/50Hz	--	--	—
Ambient temperature during test T_{amb} (°C) .....:	24,6-25,0	24,6-25,0	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
EUT **DS-K2624X** test with power supply LRS-100-12:					
AC inlet	63,9	63,6	--	--	70
PCB under RTH1	76,8	76,0	--	--	130
C105 body	75,6	74,1	--	--	105
U2 body	76,3	74,6	--	--	110
C5 body	77,1	75,7	--	--	105
C4 body	76,8	74,4	--	--	85
C1 body	75,7	75,7	--	--	85
PCB near Q1	83,2	82,4	--	--	130
PCB under BD1	71,1	70,0	--	--	130
TB1	60,8	60,2	--	--	80
C105	72	72,6	--	--	105
LF1 coil	83,4	84,5	--	--	120
T1 coil	84,2	82,1	--	--	110
T1 core	85,7	83,6	--	--	110
PCB(DS-18105 V1.1) near UA2	62,4	63,4	--	--	130
RTC	58,7	58,7	--	--	100
Enclsoure metal near power supply*	27,2	27,0	--	--	70

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:

Supplementary information:

Note 1: Tma should be considered as directed by applicable requirement.

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9).

* The test results of touchble surface temperature were considered base on ambient temperature 25°C. Other temperature point list in this table has shifted to Tma 55°C.

The limited temperature of power supply refer to power supply report.

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V) .....:	90VAC/60Hz	264VAC/50Hz	--	--	—
Ambient temperature during test T_{amb} (°C) .....:	24,1-25,0	24,6-25,0	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
EUT **DS-K2624X** test with power supply PMT-12V100W2BA:					
AC inlet	64,7	64,3	--	--	70
T1 coil	83,8	80,1	--	--	110
T1 core	82,8	79,4	--	--	110
CN1 L Pin	69,3	66,7	--	--	105
FL1 coil	91,3	89,3	--	--	130
CX1 near FL1	75,9	73,6	--	--	105
PCB under BD1	82,2	80,9	--	--	130
C111	72,0	69,0	--	--	85
IC51	77,0	73,7	--	--	110
C32	76,6	73,9	--	--	85
C1	76,7	74,7	--	--	105
PCB(DS-18105 V1.1) near UA2	64,6	62,2	--	--	130
RTC	62,4	59,9	--	--	Ref
Enclosure metal near power supply*	28,6	26,0	--	--	70

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:

Supplementary information:

Note 1: Tma should be considered as directed by applicable requirement.

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9).

* The test results of touchble surface temperature were considered base on ambient temperature 25°C. Other temperature point list in this table has shifted to Tma 55°C.

The limited temperature of power supply refer to power supply report.

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V) .....:	90VAC/60Hz	264VAC/50Hz	--	--	—
Ambient temperature during test T_{amb} (°C) .....:	24,6-25,0	24,6-25,0	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
EUT **DS-K2621X** test with power supply LRS-50-12:					
AC inlet	63,7	62,9	--	--	70
PCB(DS-18105 V1.1) near UA2	63,2	62,7	--	--	130
RTC	62,4	61,9	--	--	Ref
Metal enclosure*	27,2	26,6	--	--	70
TB1L	60,0	59,4	--	--	130
TB1V+	60,3	59,7	--	--	130
C24 body	81,2	80,2	--	--	105
C1 body	81,8	80,8	--	--	100
PCB near RTH1	82,5	81,4	--	--	105
LF1 coil	82,2	81,2	--	--	130
C30 body	81,7	80,7	--	--	105
PCB near BD1	81,8	80,8	--	--	105
PCB near Q1	82,4	82,3	--	--	105
U2 body	81,7	81,0	--	--	110
T1 core	81,6	81,2	--	--	110
T1 coil	81,7	81,2	--	--	110
C32 body near T1	81,3	80,8	--	--	85
C105 body	81,3	80,7	--	--	105
PCB near Q100	81,1	80,6	--	--	105
L100 coil	81,0	80,5	--	--	105
C5 body near BD1	81,7	81,2	--	--	105
insulation sheet near T1	81,4	81,0	--	--	90

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:							

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

Note 1: Tma should be considered as directed by applicable requirement.

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9).

* The test results of touchble surface temperature were considered base on ambient temperature 25°C. Other temperature point list in this table has shifted to Tma 55°C.

The limited temperature of power supply refer to power supply report.

5.4.1.4, 9.3, B.1.5, B.2.6	**TABLE: Temperature measurements**				P
Supply voltage (V) .....:	90VAC/60Hz	264VAC/50Hz	--	--	—
Ambient temperature during test T_{amb} (°C) .....:	24,4-25,0	24,4-25,0	--	--	—
Maximum measured temperature *T* of part/at:	*T* (°C)				Allowed T_{max} (°C)
EUT **DS-K2621X** test with power supply PMT-12V50W2BA:					
AC inlet	62,9	62,7	--	--	70
PCB(DS-18105 V1.1) near UA2	61,9	62,2	--	--	130
RTC	62,8	63,1	--	--	Ref
Metal enclosure*	27,6	27,8	--	--	70
Input terminal CN1 L pin	61,0	61,3	--	--	105
PCB near NTC1	84,0	79,7	--	--	130
CX1	84,1	79,9	--	--	105
FL1 coil	84,2	81,0	--	--	130
C1 near BD1	84,3	80,3	--	--	105
T1 coil (Class B)	84,5	80,1	--	--	110
T1 core (Class B)	84,5	80,0	--	--	110
C103 near T1 and D101	79,4	79,8	--	--	85
IC51	84,3	79,8	--	--	110

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:

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

Note 1: Tma should be considered as directed by applicable requirement.

Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9).

* The test results of touchble surface temperature were considered base on ambient temperature 25°C. Other temperature point list in this table has shifted to Tma 55°C.

The limited temperature of power supply refer to power supply report.

B.2.5	**TABLE: Input test**							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
90	50	1,58	--	91,90	--	--	--	Normal work
90	60	1,64	--	92,19	--	--	--	Test with power supply LRS-100-12;
100	50	1,42	2,2	91,06	--	--	--	
100	60	1,44	2,2	91,52	--	--	--	READER POWER load 2A;
240	50	0,74	2,2	90,64	--	--	--	
240	60	0,70	2,2	91,78	--	--	--	LOCK POWER load 4A;
264	50	0,66	--	89,21	--	--	--	
264	60	0,63	--	88,97	--	--	--	EUT model: DS-K2624X
Supplementary information:								
The measured input current or power at rated input voltage range didn’t exceed 10% of the rated value.								

B.2.5	**TABLE: Input test**							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
90	50	1,59	--	92,01	--	--	--	Normal work
90	60	1,42	--	91,98	--	--	--	Test with power supply PMT-12V100W2BA;
100	50	0,75	2,2	89,94	--	--	--	
100	60	0,67	2,2	89,45	--	--	--	READER POWER load 2A;
240	50	1,61	2,2	91,77	--	--	--	
240	60	1,44	2,2	91,52	--	--	--	LOCK POWER load 4A;
264	50	0,71	--	91,02	--	--	--	
264	60	0,62	--	89,94	--	--	--	EUT model: DS-K2624X
Supplementary information:								
The measured input current or power at rated input voltage range didn’t exceed 10% of the rated value.								

B.2.5	**TABLE: Input test**	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
90	50	0,95	--	50,47	--	--	--	Normal work
90	60	0,91	--	50,18	--	--	--	Test with power supply LRS-50-12;
100	50	0,85	1,1	49,90	--	--	--	
100	60	0,82	1,1	49,86	--	--	--	READER POWER load 2A;
240	50	0,43	1,1	49,32	--	--	--	
240	60	0,42	1,1	49,31	--	--	--	LOCK POWER load 1A;
264	50	0,39	--	49,57	--	--	--	
264	60	0,39	--	49,55	--	--	--	EUT model: DS-K2621X
Supplementary information:								
The measured input current or power at rated input voltage range didn't exceed 10% of the rated value.								

B.2.5	**TABLE: Input test**							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
90	50	0,95	--	50,65	--	--	--	Normal work
90	60	0,97	--	50,78	--	--	--	Test with power supply PMT-12V50W2BA;
100	50	0,85	1,1	50,09	--	--	--	
100	60	0,86	1,1	50,40	--	--	--	READER POWER load 2A;
240	50	0,41	1,1	49,69	--	--	--	
240	60	0,41	1,1	49,41	--	--	--	LOCK POWER load 1A;
264	50	0,37	--	48,98	--	--	--	
264	60	0,38	--	49,09	--	--	--	EUT model: DS-K2621X
Supplementary information:								
The measured input current or power at rated input voltage range didn't exceed 10% of the rated value.								

B.3, B.4	**TABLE: Abnormal operating and fault condition tests**						**P**
Ambient temperature T_{amb} (°C) ..... :					See below		
Power source for EUT: Manufacturer, model/type, outputrating .. :					See table 4.1.2		
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
EUT model DS-K2624X test with power supply LRS-100-12							
READER POWER	overload	90	3h	--	1,58->-1,68>1,7	T1 coil: 64,6°C;	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

					9->1,15	T1 core: 64,8°C; Enclosure: 30,2°C; Ambient: 25°C READER POWER load 2,0->2,5->3,0->0,no damage, no hazard.
LOCK POWER	overload	90	3h	--	1,58->1,73->1,85->0,79	T1 coil: 78°C; T1 core: 76°C; Enclosure: 31,5°C; Ambient: 25°C LOCK POWER load 4,0->4,5->5,0->0no damage, no hazard.
READER POWER	SC	90V	10min	--	1,15	READER POWER shutdown immediately, no damage, no hazard.
LOCK POWER	SC	90V	10min	--	0,79	LOCK POWER shutdown immediately, no damage, no hazard.
C52	SC	264V	10min	--	0,01	EUT shutdown immediately, No damage,no hazard.
U33 PIN1-3	SC	264V	10min	--	0	LED shutdown immediately, No damage,no hazard.
Q63 PIN1-6	SC	264V	10min	--	0	EUT shutdown immediately, No damage,no hazard.
EUT model DS-K2621X test with power supply LRS-50-12						
READER POWER	overload	90	3h	--	0,95->-1,04>1,16->0,52	T1 coil: 63,8°C; T1 core: 67,5°C; Enclosure: 30,3°C; Ambient: 25°C READER POWER load 2,0->2,5->3,0->0,no damage, no hazard.
LOCK POWER	overload	90	3h	--	1,56->->1,67->1,77>-0,79	T1 coil: 73,4°C; T1 core: 77,2°C; Enclosure: 31,8°C; Ambient: 25°C LOCK POWER load 4,0->4,5->5,0->0no damage, no

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

						hazard.
READER POWER	SC	90V	10min	--	0,52	READER POWER shutdown immediately, no damage, no hazard.
LOCK POWER	SC	90V	10min	--	0,79	LOCK POWER shutdown immediately, no damage, no hazard.
C52	SC	264V	10min	--	0,01	EUT shutdown immediately, No damage,no hazard.
U33 PIN1-3	SC	264V	10min	--	0	LED shutdown immediately, No damage,no hazard.
Q63 PIN1-6	SC	264V	10min	--	0	EUT shutdown immediately, No damage,no hazard.
EUT model DS-K2621X test with power supply PMT-12V50W2BA						
READER POWER	overload	90	3h	--	0,95->-1,04>1,16->0,52	T1 coil: 67,8°C; T1 core: 63,9°C; Enclosure: 30,4°C; Ambient: 25°C READER POWER load 2,0->2,5->3,0->0,no damage, no hazard.
LOCK POWER	overload	90	3h	--	1,56->->1,67->1,77>-0,79	T1 coil: 77,8°C; T1 core: 74°C; Enclosure: 32°C; Ambient: 25°C LOCK POWER load 4,0->4,5->5,0->0no damage, no hazard.
Supplementary information:						
Sc=Short circuit.						

M.3	**TABLE: Protection circuits for batteries provided within the equipment**					P
Is it possible to install the battery in a reverse polarity position? .....:				No		
Equipment Specification	Charging					
	Voltage (V)			Current (A)		
	See page 9			See page 9		
Manufacturer/type	Battery specification					
	Non-rechargeable batteries		Rechargeable batteries			
	Discharging	Unintentional	Charging		Discharging	Reverse

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

	current (A)	charging current (A)	Voltage (V)	Current (A)	current (A)	charging current (A)
See table 4.1.2	--	--	--	300mA	--	--
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.						
Specified battery temperature (°C) ..... :	60					

Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation
C162	Sc	Discharge	3h	--	1,73mA	--	NL, NS, NE, NF
DN1 PIN1-3	Sc	Un-intentional charging	10min	--	1,73mA	--	NL, NS, NE, NF

Supplementary information:

Abbreviation: SC= short circuit; OC= open circuit NL= no chemical leakage; NS= no spillage of liquid; NE= no explosion; NF= no emission of flame or expulsion of molten metal.

The two EUT has the same result.

M.4.2	**TABLE: Charging safeguards for equipment containing a secondary lithium battery**	**N/A**
Maximum specified charging voltage (V) ..... :	--	
Maximum specified charging current (A) ..... :	--	
Highest specified charging temperature (°C) ..... :	--	
Lowest specified charging temperature (°C) ..... :	--	

Battery manufacturer/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (°C)	
--	--	--	--	--	--

Supplementary information:

Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature.

Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**						P
Output Circuit	Condition	U_{oc} (V)	Time (s)	I_{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
READER POWER	Normal(LP-MSM150/24 certified)	11,81	5	3,5	8	38,54	100
LOCK POWER	Normal(SMD2920 P500TF/16 certified)	11,84	5	6,5	8	68,87	100

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

RS485	normal	0	5	0	8	0	100
Alarm out	normal	0	5	0	8	0	100
Supplementary Information:							

T.2, T.3, T.4, T.5	**TABLE: Steady force test**			P

Location/Part	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation
Enclosure	Metal	See table 4.1.2	--	250	5	Intact
Supplementary information:						

T.6, T.9	**TABLE: Impact test**			P

Location/Part	Material	Thickness (mm)	Height (mm)	Observation
Enclosure	Metal	See table 4.1.2	1300	Intact
Supplementary information:				

T.7	**TABLE: Drop test**			N/A

Location/Part	Material	Thickness (mm)	Height (mm)	Observation
--	--	--	--	--
Supplementary information:				

T.8	**TABLE: Stress relief test**				N/A

Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
--	--	--	--	--	--
Supplementary information:					

X	**TABLE: Alternative method for determining minimum clearances distances**			N/A

Clearance distanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

--	--	--	--
Supplementary information:			

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components				P
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1]**
Metal enclosure	Interchangeable	Interchangeable	Min.0,8 mm thickness	IEC 62368-1:2018, EN IEC 62368-1:2020+A11: 2020	Tested with appliance
Power Supply Unit **For model DS-K2624X & DS-K2622X series models**	MEAN WELL ENTERPRISES CO.,LTD.	LRS-100-12	Input: 100-240VAC,50Hz/60 Hz,2,1A; Output: 12VDC,8,5A	IEC 62368-1 : 2014	TUV Rh CB Cert: JPTUV-098884; Report: 50261876 001
Alternative Power Supply Unit	DELTA ELECTRONIC INC.	PMT-12V100W2BA	Input: 100-240VAC,50Hz-60 Hz, 2,3A Output: 12VDC, 7,65A; 12VDC, 8,5A	IEC 62368-1 : 2014	TUV Rh CB Cert: JPTUV-132911; report: CN227P38 001
Power Supply Unit **For model DS-K2621X series models**	MEAN WELL ENTERPRISES CO.,LTD.	LRS-50-12	Input: 100-240VAC,50Hz/60 Hz, 1,0A; Output: 12VDC, 4,2A	IEC 62368-1 : 2018	TUV Rh CB Cert: JPTUV-137050-M1; Report: CN22KWDS 002
Alternative Power Supply Unit	DELTA ELECTRONIC INC.	PMT-12V50W2BA	Input: 100-240VAC,50Hz-60 Hz, 1,5A Output: 12VDC, 4,2A	IEC 62368-1 : 2014	TUV Rh CB Cert: JPTUV-091086-M2; report: 50172569 003
AC inlet	Dongguan Huaconn Electronics Co Ltd	HC-88	250V,10A	UL 498	UL E475637
Internal primary wire & Earth wire	HEYUAN NS-TECH CO., LTD.	1015	16AWG, 600V, 105°C, VW-1	UL758	E254391
Alternative	Henan CARVE Electronics Polytron Technologies Inc	1015	16AWG, 600V, 105°C, VW-1	UL758	E346485
Alternative Earth wire	SHENZHEN FUXINDA ELECTRONIC CO LTD	1015	16AWG, 600V, 105°C, VW-1	UL758	E470257

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Alternative earth wire	Kunshan Xinghongmeng Electronic Co Ltd	1015	16AWG, 600V, 105°C, VW-1	UL758	E315421
Alternative earth wire	XINYA ELECTRONIC CO LTD	1015	16AWG, 600V, 105°C, VW-1	UL758	E170689
Alternative earth wire	Anhui Londa Electronic Technology Co Ltd	1015	16AWG, 600V, 105°C, VW-1	UL758	E205056
Earth screw	Interchangeable	Interchangeable	Min diameter: 4,0mm	IEC 62368-1:2018, EN IEC 62368-1:2020+A11: 2020	Tested with appliance
RTC Battery (J19)	GUANGZHOU TIANQIU ENTERPRISE CO LTD	CR1220	Max Abnormal Charging Current 2,5mA Max Abnormal Charging Voltage 3,5V dc	UL1642	UL MH48705
PPTC	Wayon Electronics Co., Ltd.	LP-MSM150/24	Maximum non operating current: 1,5A; Minimum operating current: 3,0A; Max: 8A, 5s	EN 62319-1-1:2005 EN 62319-1:2005	TUV Rh: R50318402
PTC	Polytronics Technology Corp.	SMD2920P500 TF/16	33V, Maximum non operating current: 1,85A; Minimum operating current: 3,7A;	EN 60738-1:1999 EN 60738-1-1:1999 IEC 60730-1:1999 EN 60730-1:2000 IEC 60738-1:1998 IEC 60738-1-1:1998	TUV Rh: R50099121
PCB	SUNTAK MULTILAYER PCB CO LTD	STD-3	V-0, 130°C	UL796 UL94	UL E207844

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

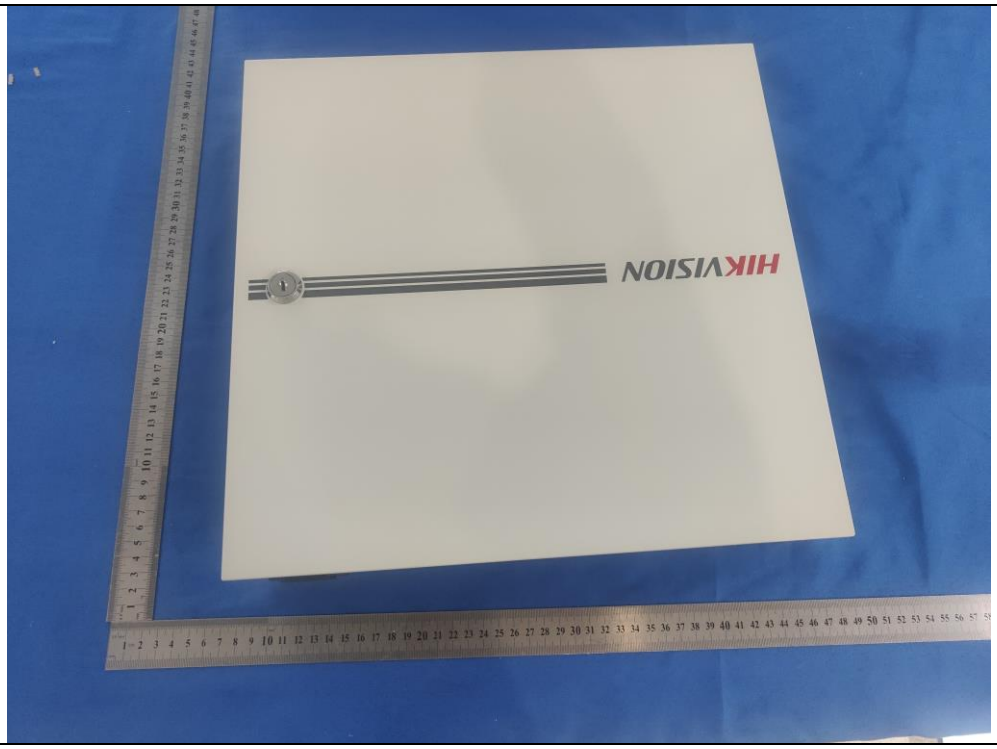
Alternative	SHENZHEN XUNJIEXING CIRCUIT TECH CO LTD	JX01	V-0, 130°C	UL796 UL94	UL E305654
Alternative	Interchangeable	Interchangeable	V-1 or better, 130°C	UL796 UL94	UL
Plug	Phino Electric Co.,Ltd	PHP-206	AC250V ,16A	DIN VDE 0620-2-1(VDE 0620-2-1):2013-03	VDE 40013375
-Alt.	Scolmore International Ltd.	SW102	AC250V ,16A	VDE 0620-1:2010	VDE 40004330
-Alt.	LINOYA ELECTRONIC TECHNOLOGY CO LTD	XYP-02L	16A, 250V	DIN VDE 0620-2-1 (VDE 0620-2-1):2016-01 DIN VDE 0620-2-1/A1 (VDE 0620-2-1/A1):2017-09	VDE 40015292
-Alt.	Interchangeable	Interchangeable	AC250V ,16A	DIN VDE 0620-2-1(VDE 0620-2-1):2013-03	VDE
Power cord	Phino Electric Co.,Ltd	H05VV-F	3*0,75mm^2	DIN EN 50525-2-11(VDE 0285-525-2-1):2012-01 EN 50525-2-11	VDE 113841
-Alt.	Hangzhou Hongshi Electrical Ltd	H05VV-F	3*0,75mm^2	EN 50525-2-11 VDE 0285-525	VDE 40010839
-Alt.	LINOYA ELECTRONIC TECHNOLOGY CO LTD	H05VV-F	3*0,75mm^2	DIN EN 50525-2-11 (VDE 0285-525-2-11):2012-01; EN 50525-2-11:2011	VDE 40035072
-Alt.	Interchangeable	Interchangeable	3*0,75mm^2	DIN EN 50525-2-11 (VDE 0285-525-2-11):2012-01; EN 50525-2-11:2011	VDE
Power connector	Phino Electric Co.,Ltd	PHS 301	AC250V ,10A	DIN EN 60320-1(VDE 0625-1):2008-05 EN 60320-1:2001+ A1:2007 IEC 60320-1(ed.2);am1	VDE Cert. No.: 40038017

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

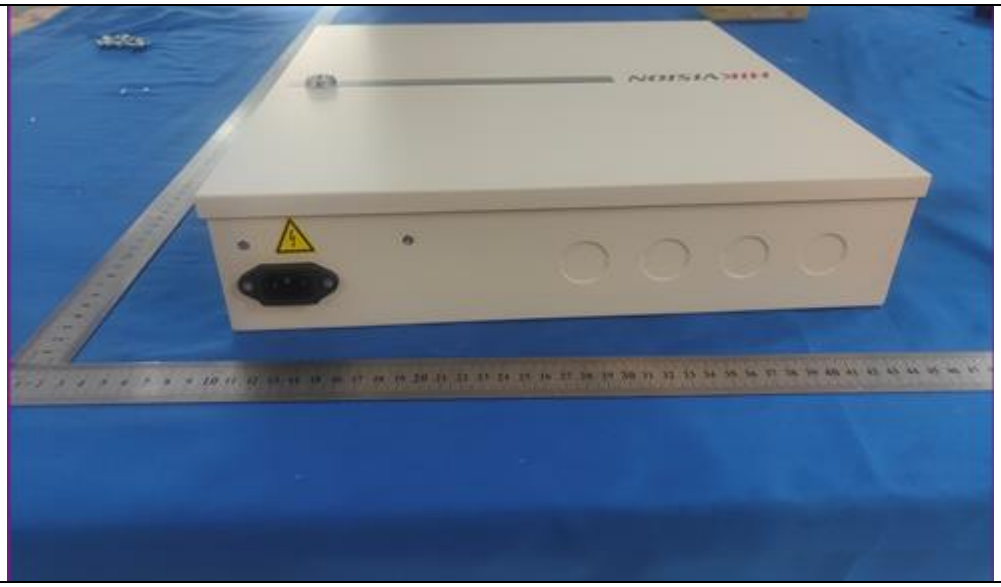
Alternative	LINOYA ELECTRONIC TECHNOLOGY CO LTD	XYC-03	10A, 250V	DIN EN 60320-1 (VDE 0625-1):2016-04; EN 60320-1:2015 + AC:2016 IEC 60320-1:2015	VDE 40016051
-Alt.	Interchangeable	Interchangeable	10A, 250V	DIN EN 60320-1 (VDE 0625-1):2016-04; EN 60320-1:2015 + AC:2016 IEC 60320-1:2015	VDE
Internal secondary Wiring	Interchangeable	Interchangeable	Marked VW-1, Min.80°C, Min. 30V.	--	--
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

---End of Report---

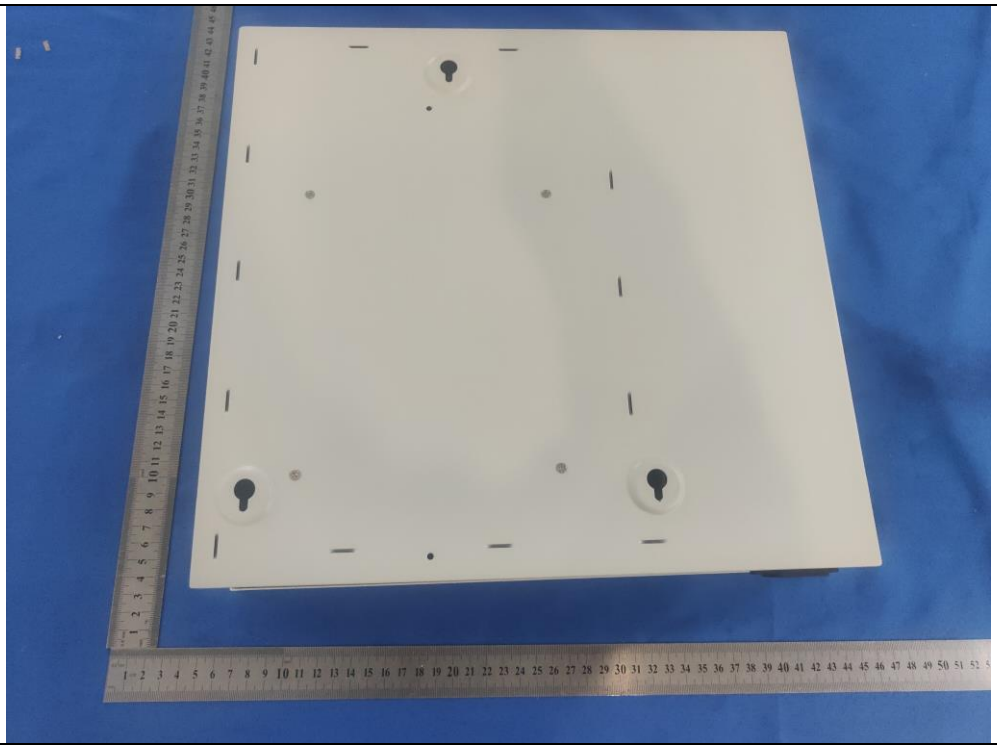
Details of: General View (Model DS-K2624X)



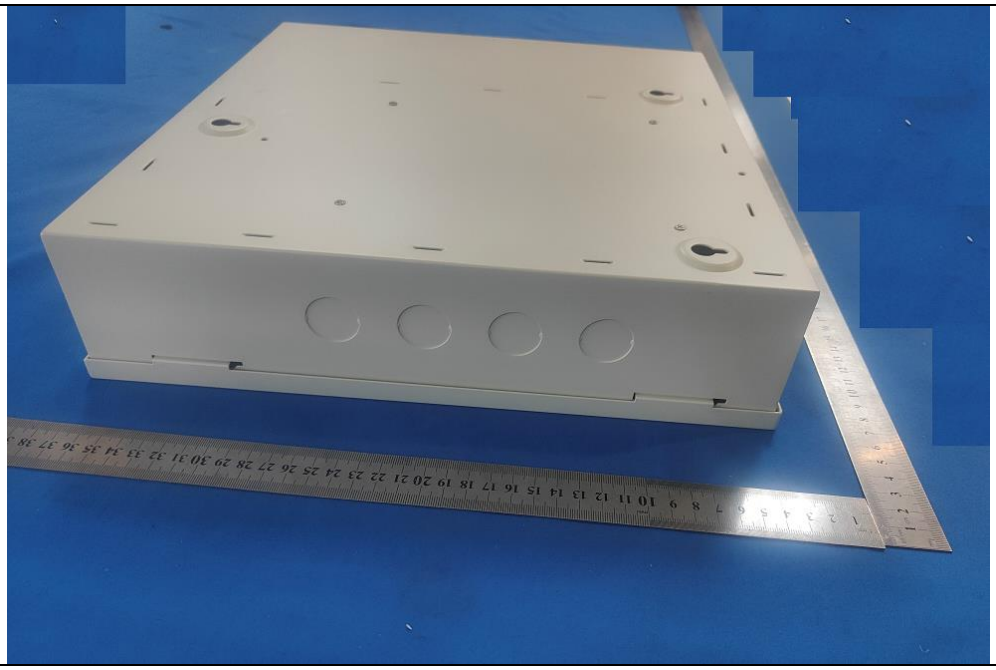
Details of: General View (Model DS-K2624X)



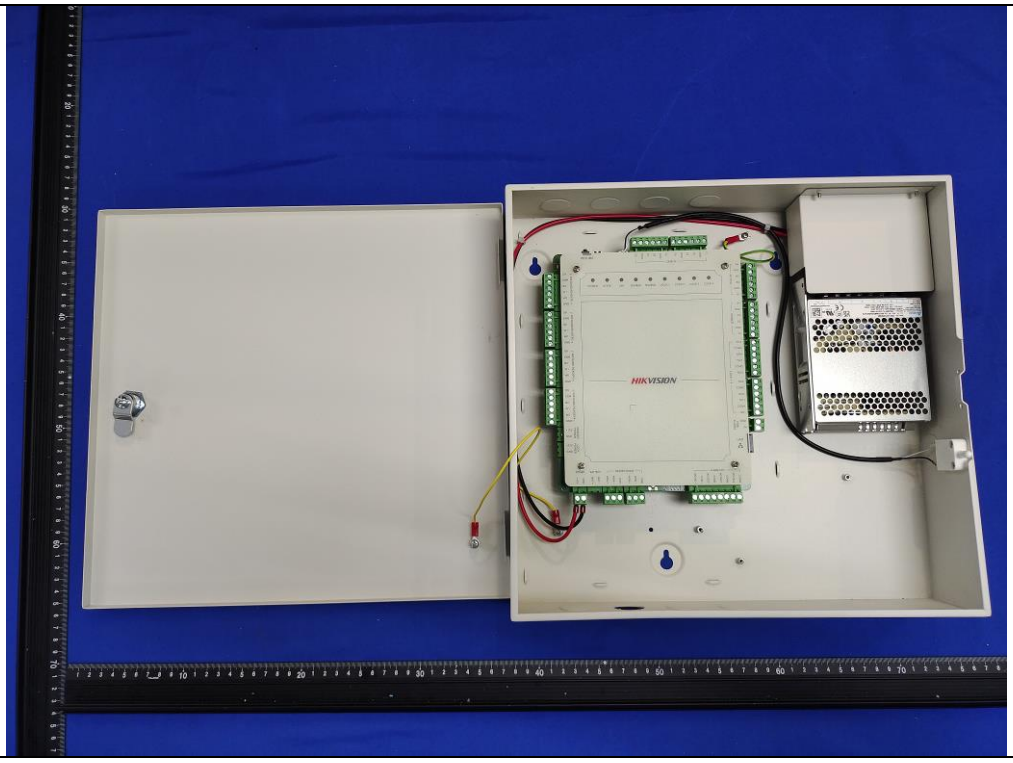
Details of: General View (Model DS-K2624X)



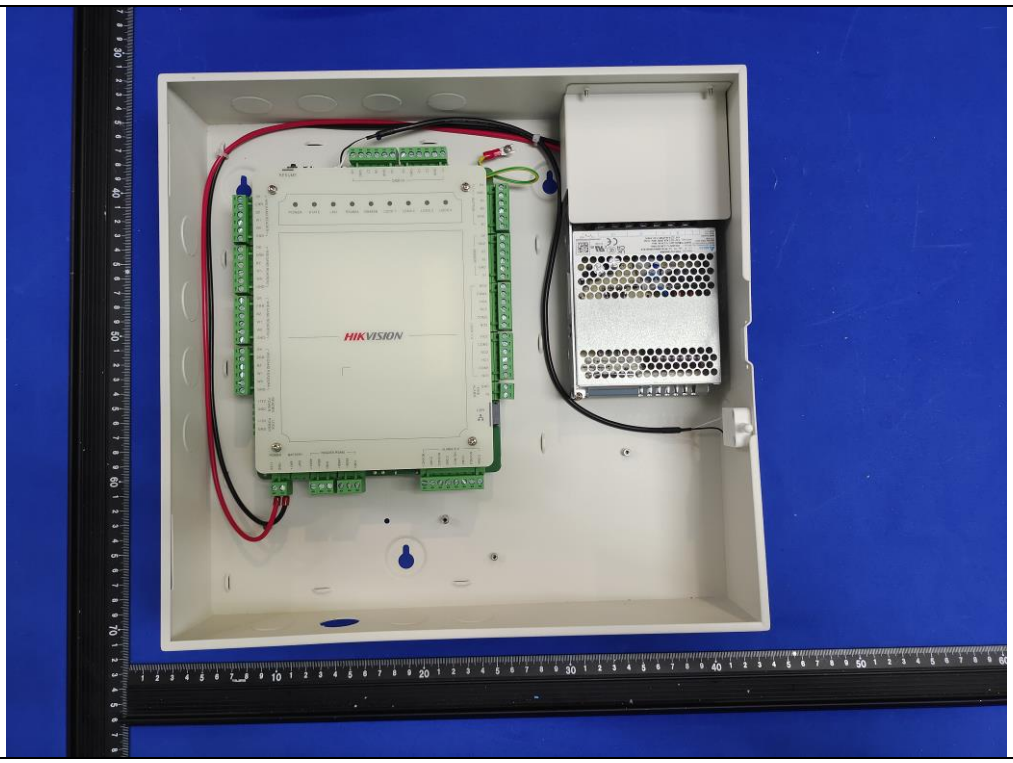
Details of: General View (Model DS-K2624X)



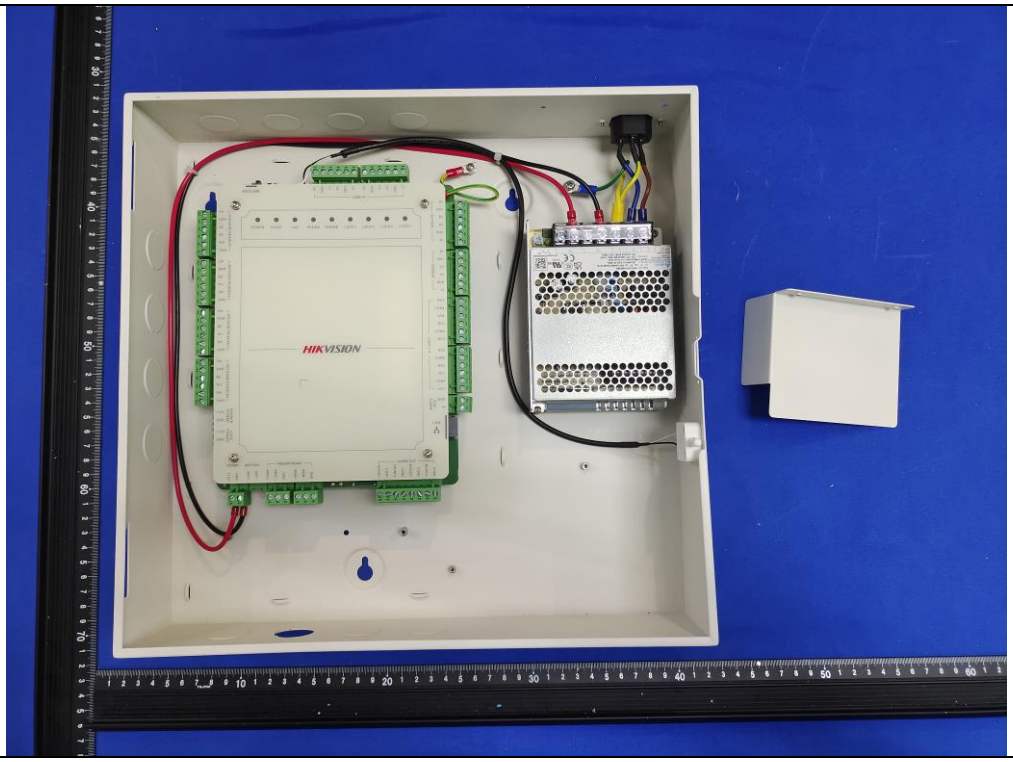
Details of: Internal View (Model DS-K2624X)



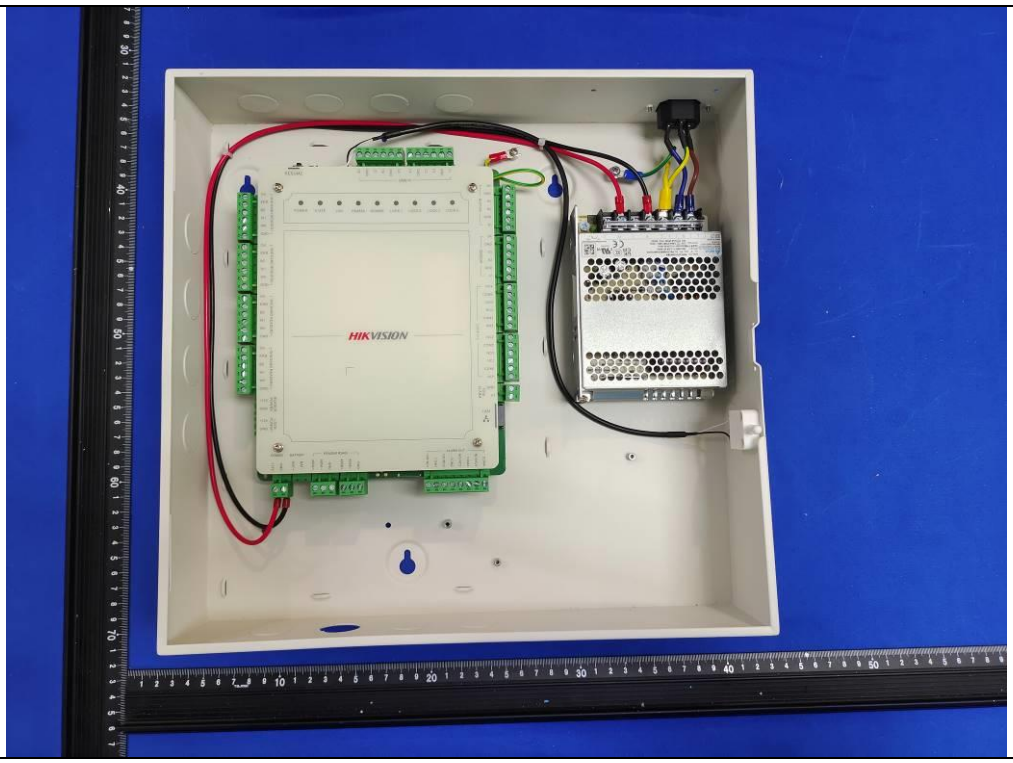
Details of: Internal View (Model DS-K2624X)



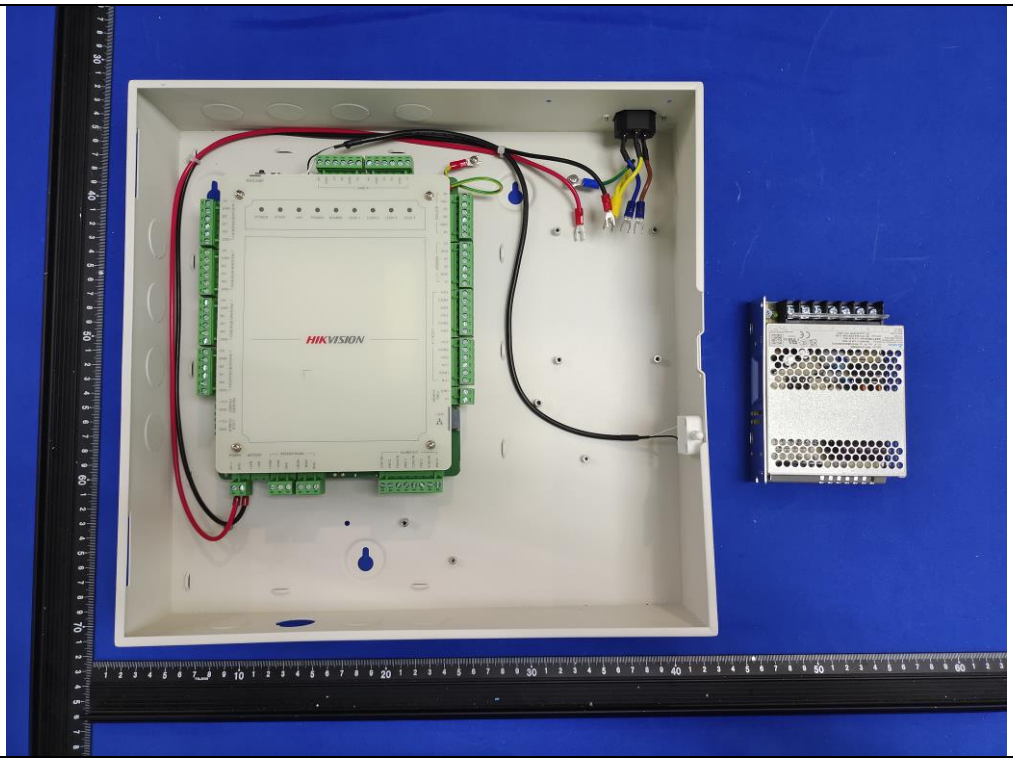
Details of: Internal View (Model DS-K2624X)



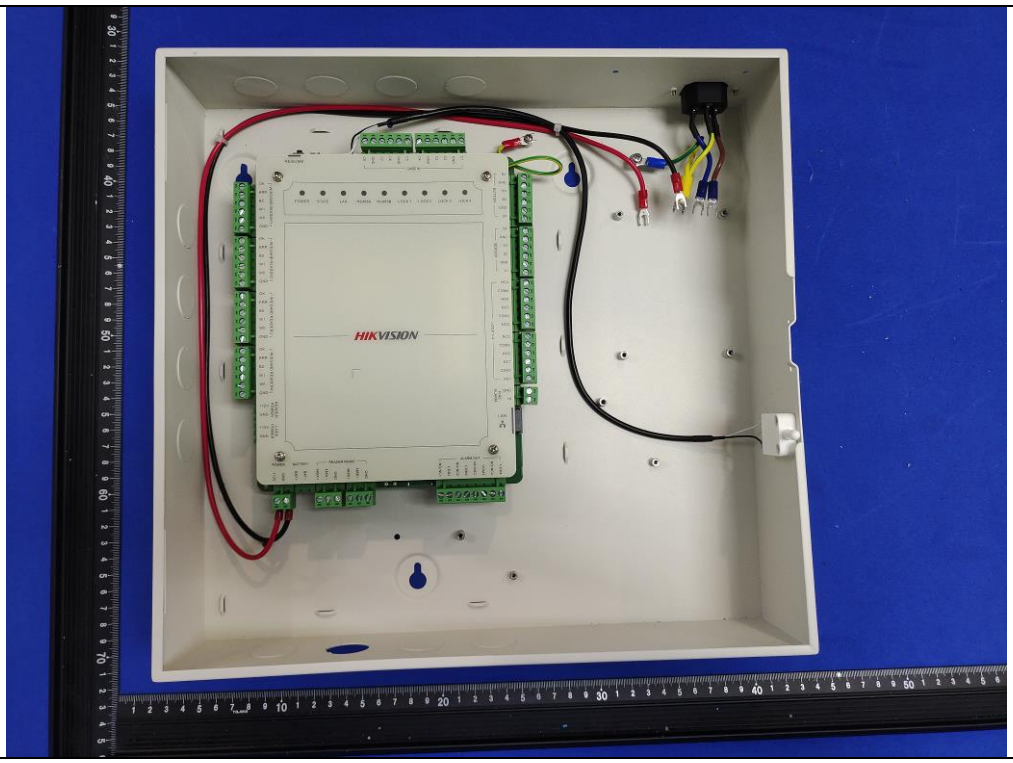
Details of: Internal View (Model DS-K2624X)



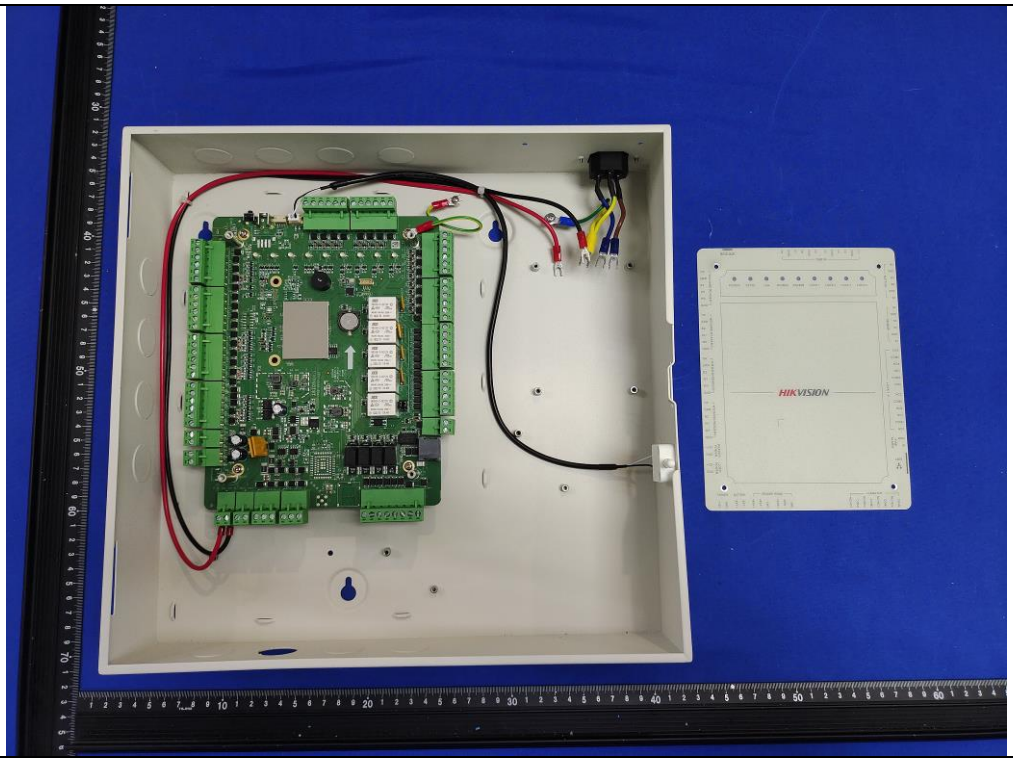
Details of: Internal View (Model DS-K2624X)



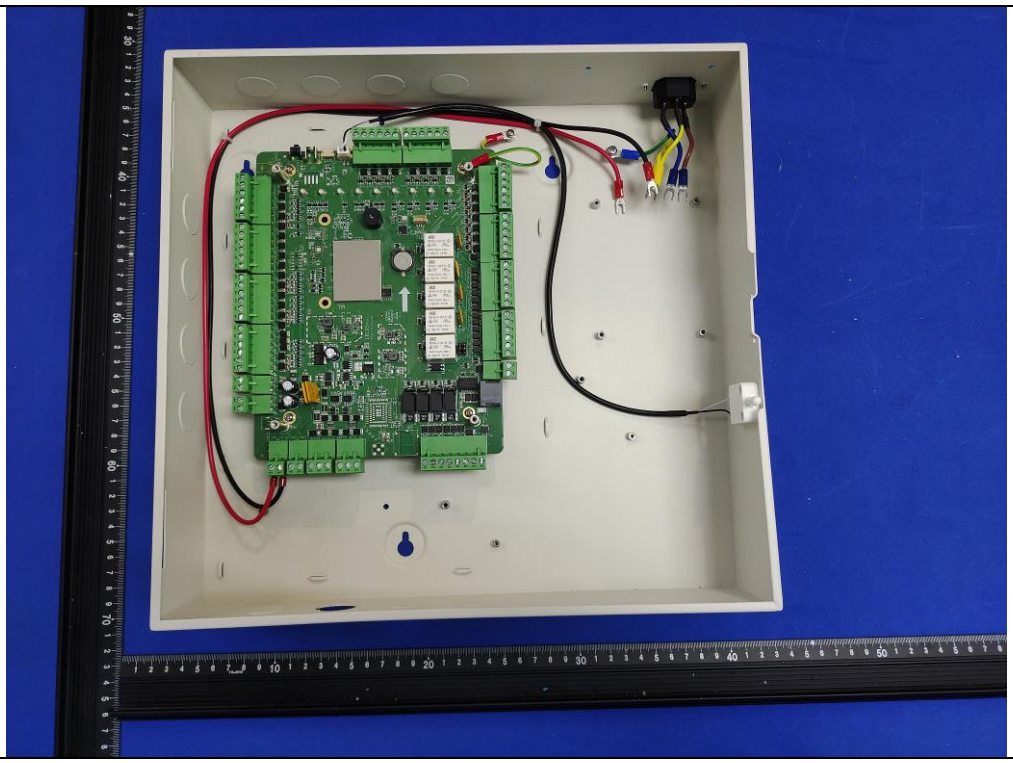
Details of: Internal View (Model DS-K2624X)



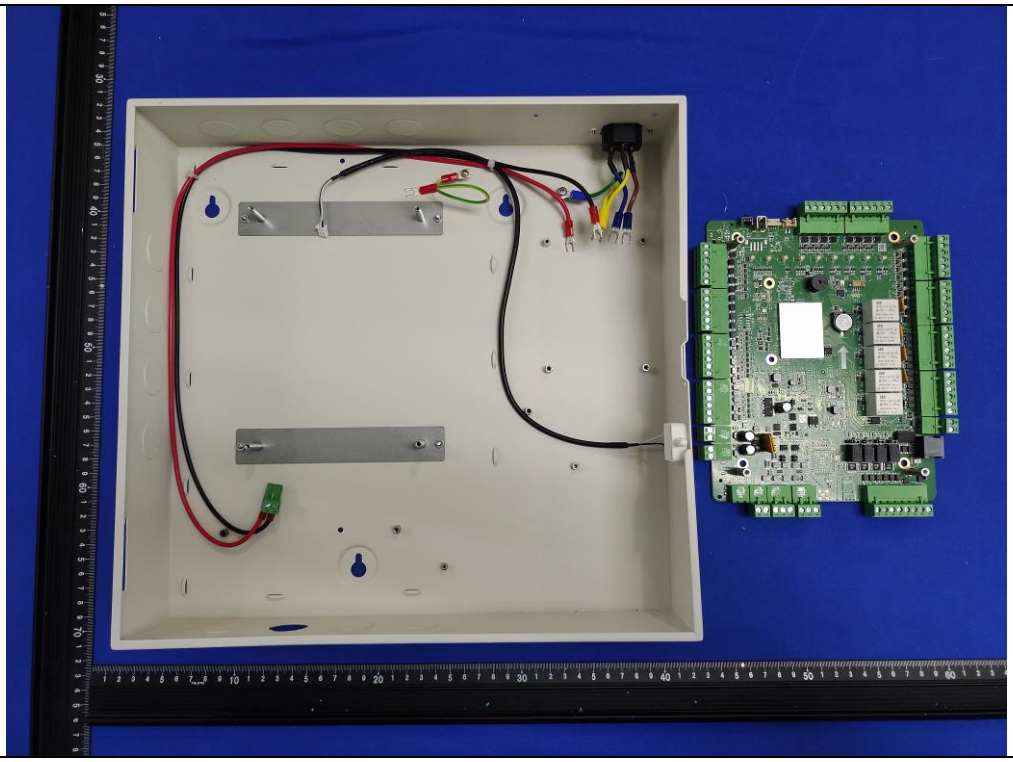
Details of: Internal View (Model DS-K2624X)



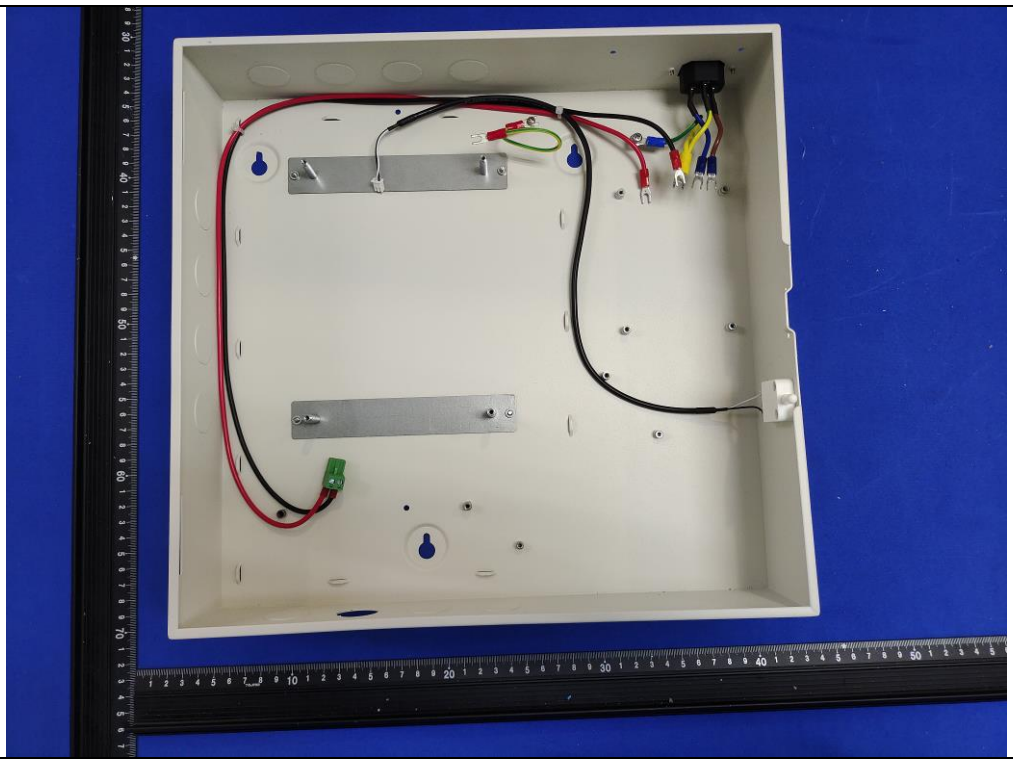
Details of: Internal View (Model DS-K2624X)



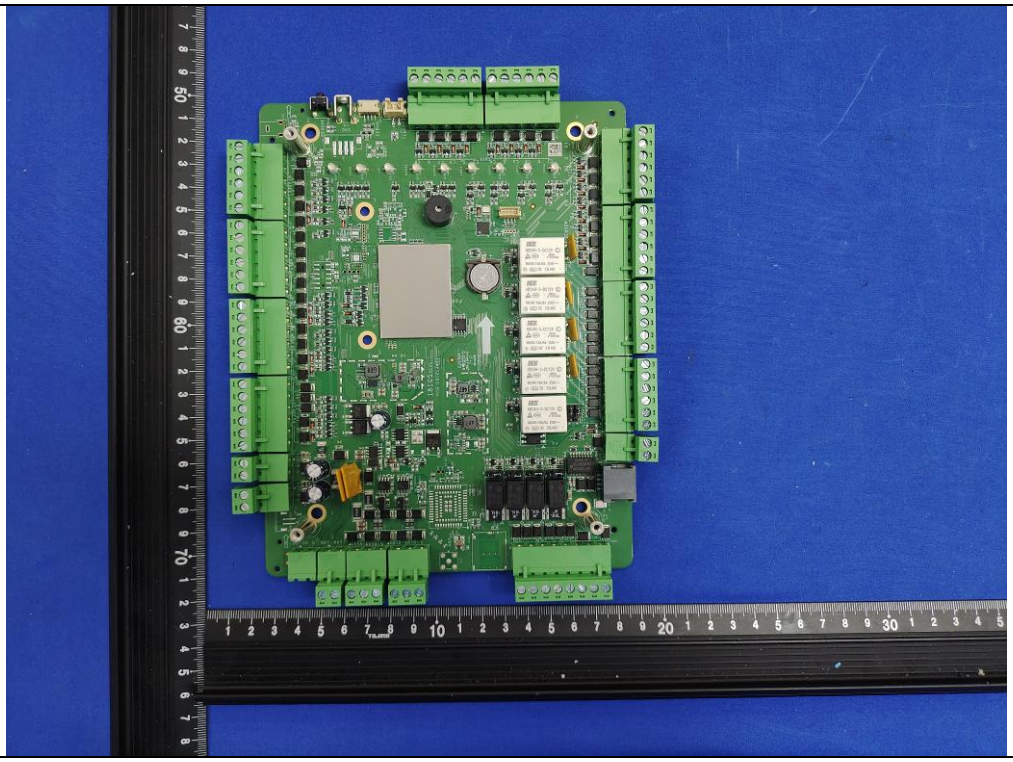
Details of: Internal View (Model DS-K2624X)



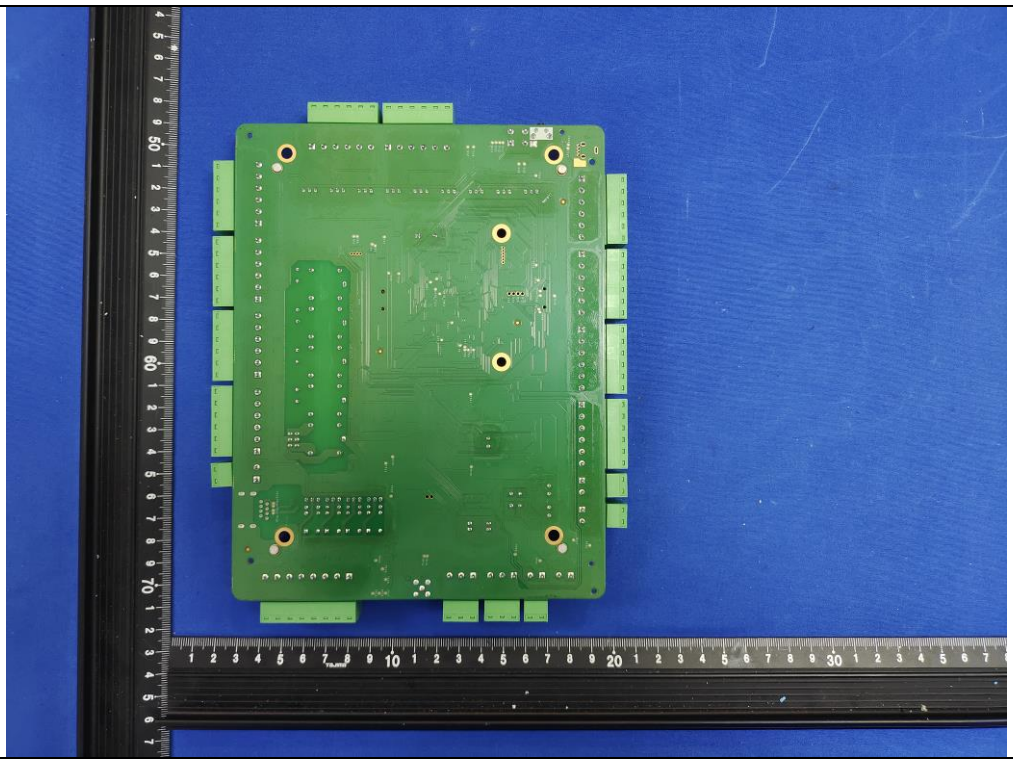
Details of: Internal View (Model DS-K2624X)



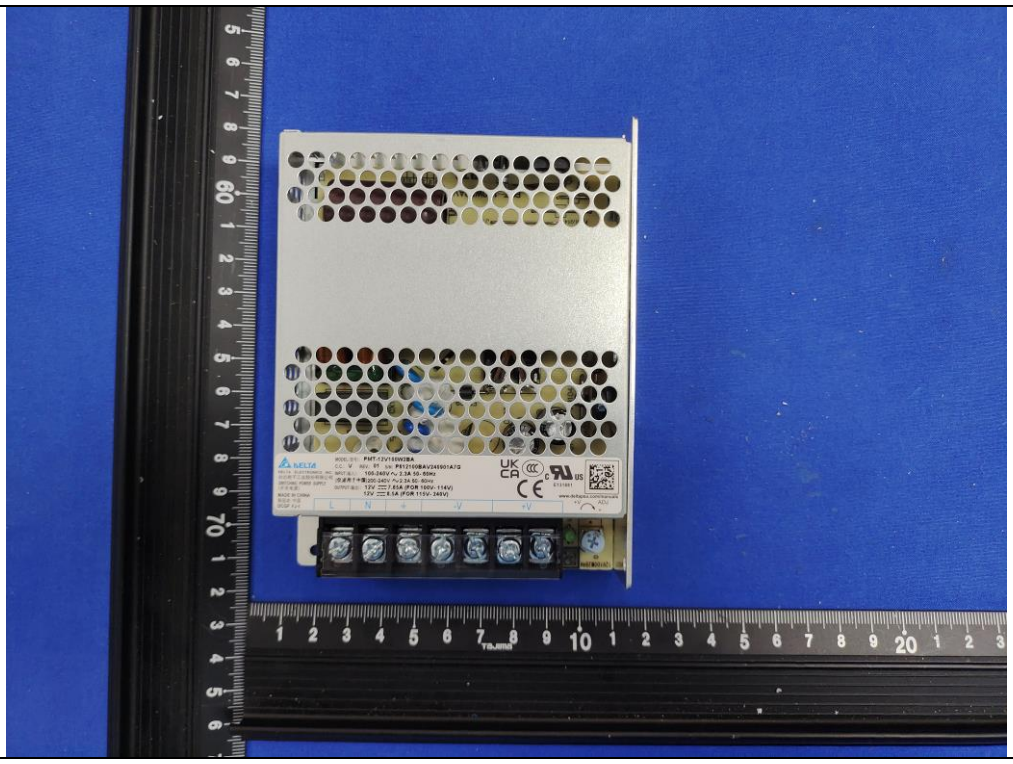
Details of: Main board



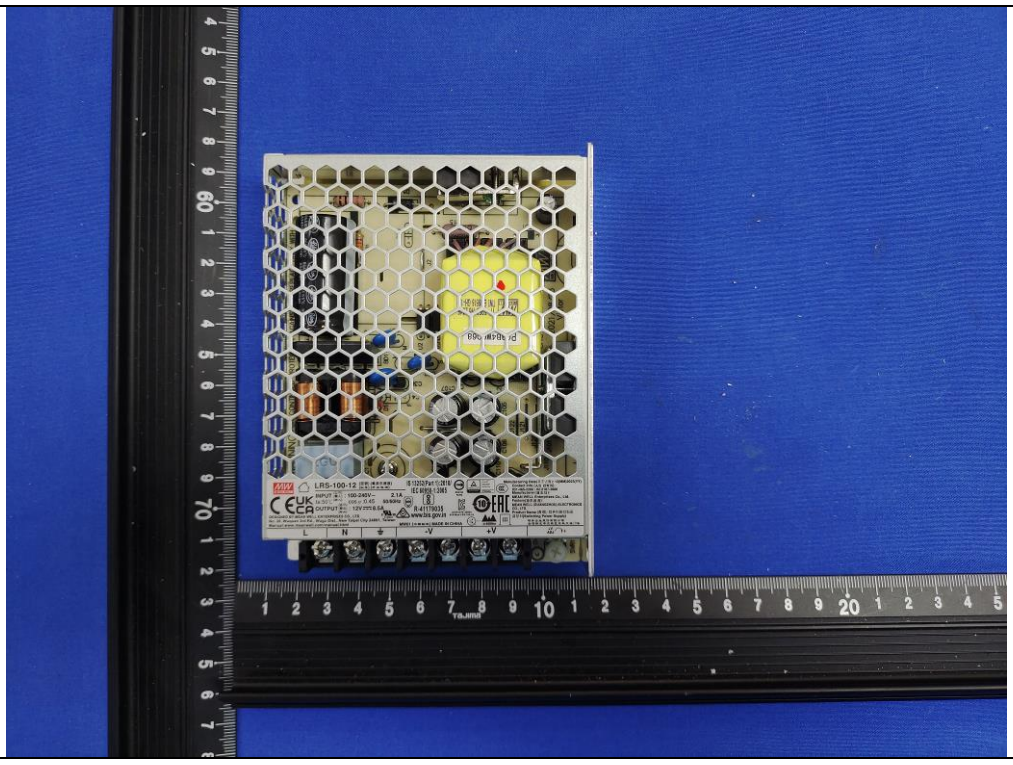
Details of: Main board



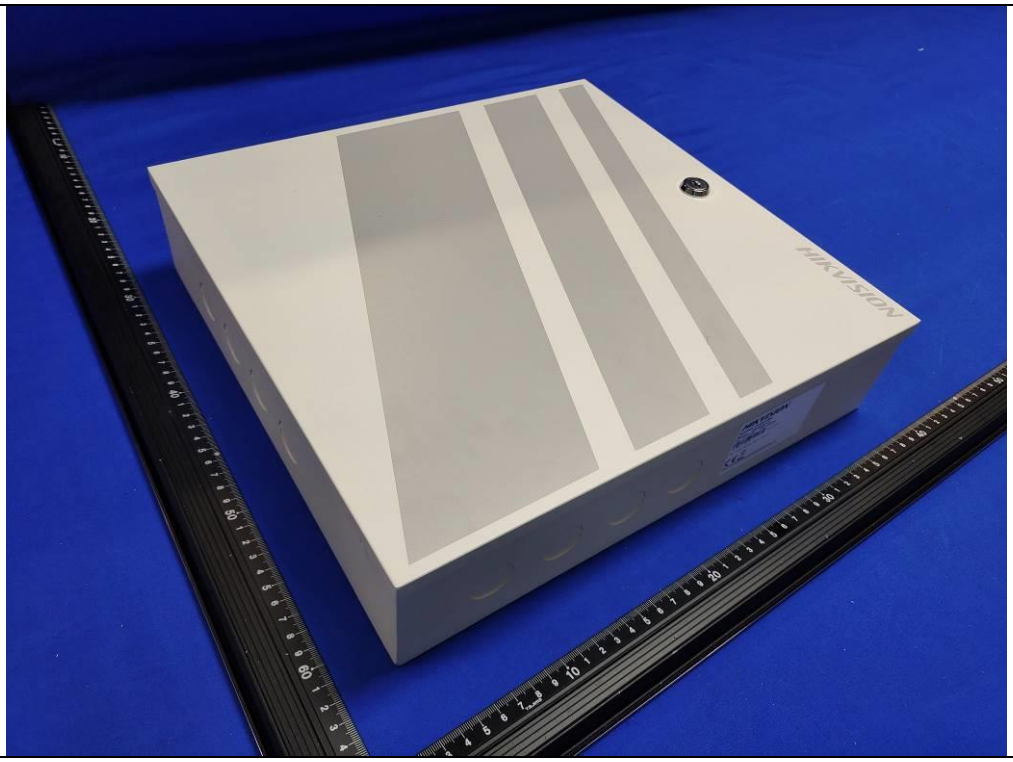
Details of: Building-in power supply (PMT-12V100W2BA)



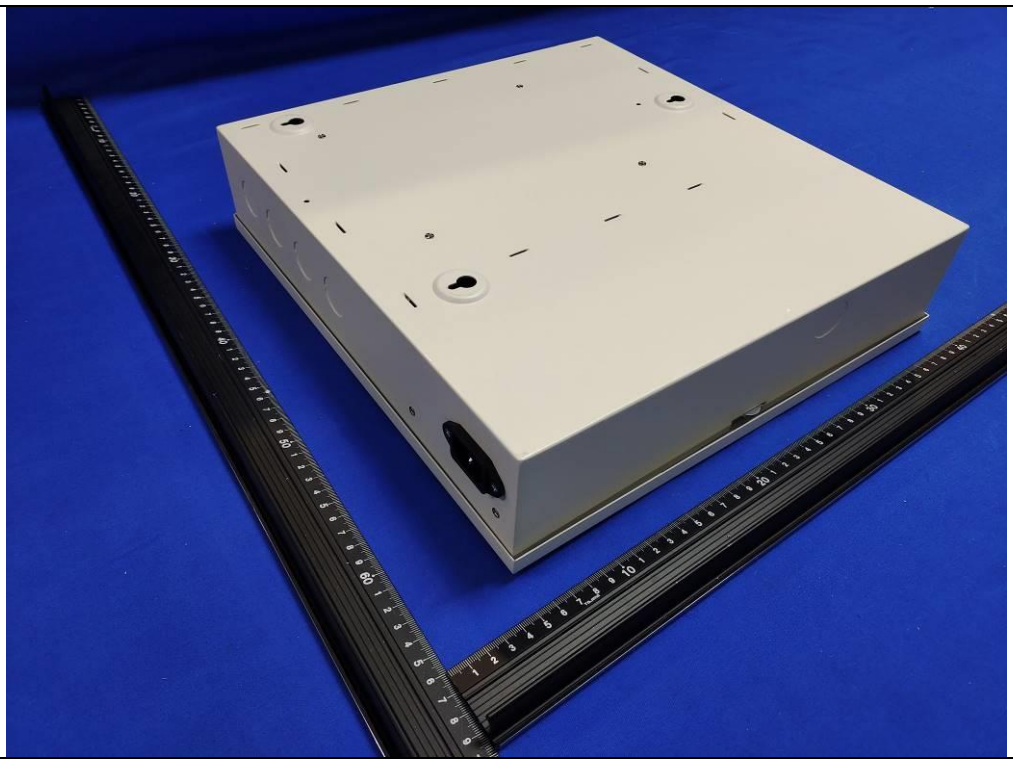
Details of: Building-in power supply LRS-100-12



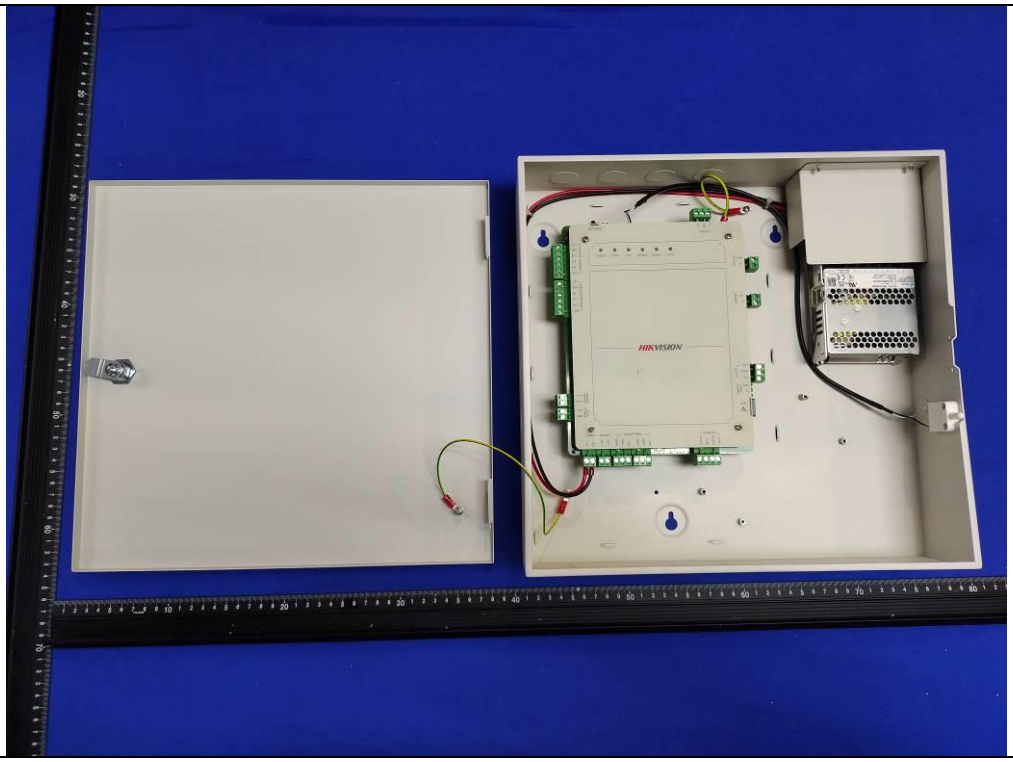
Details of: General View (Model DS-K2621X)



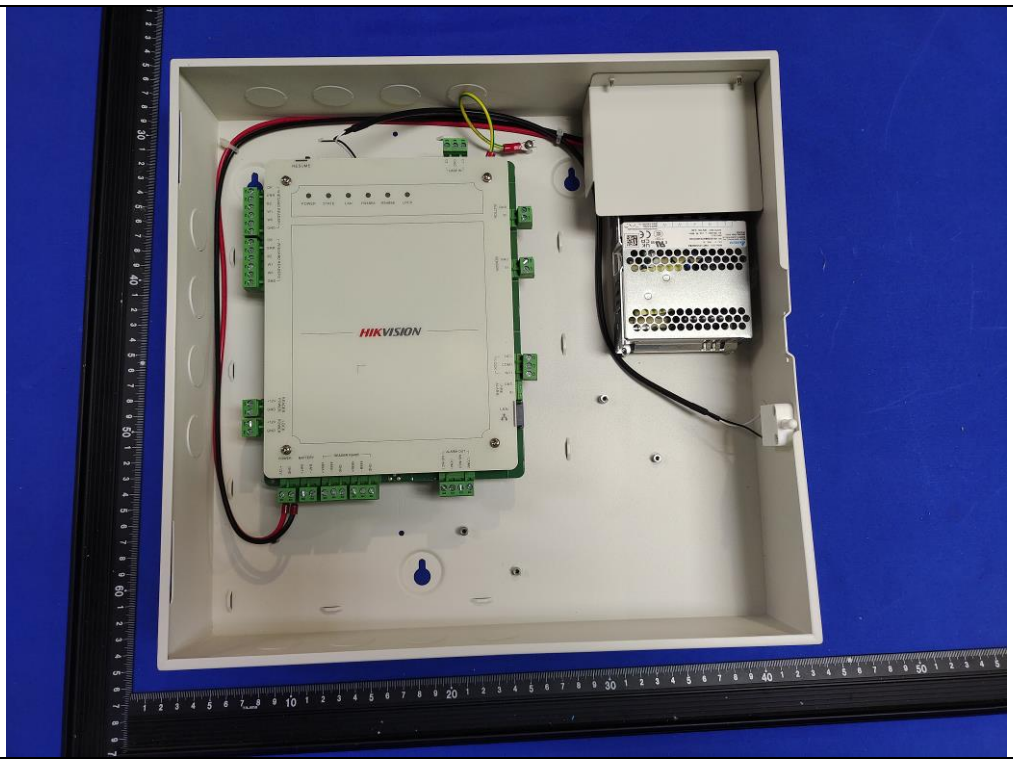
Details of: General View (Model DS-K2621X)



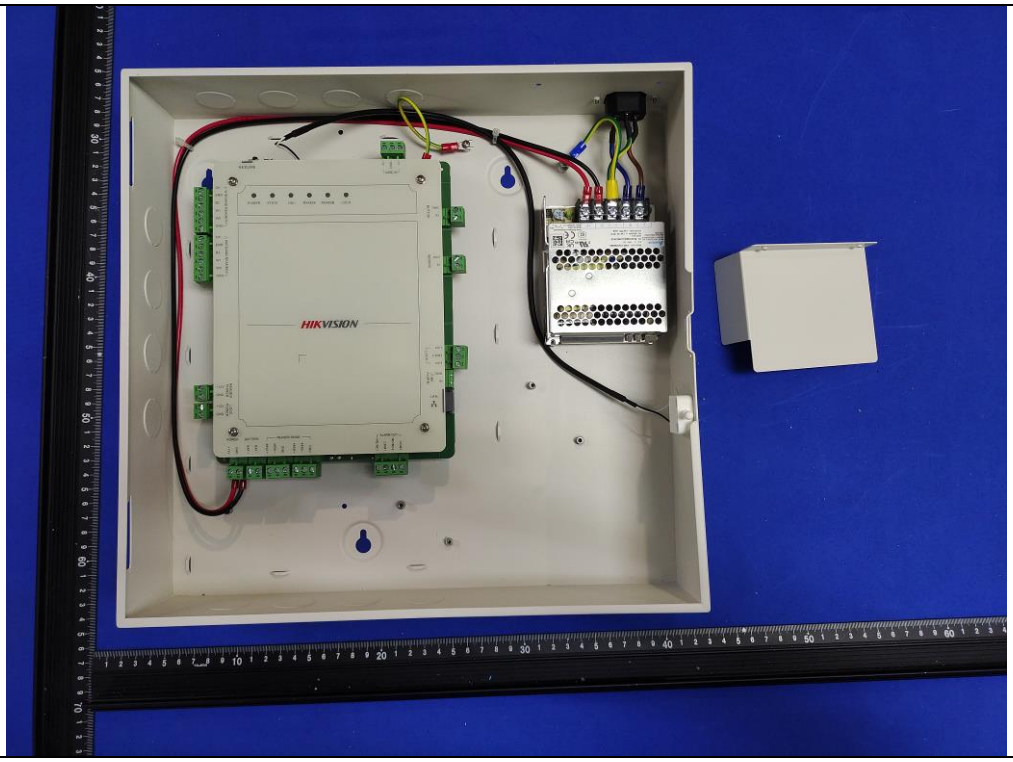
Details of: Internal View (Model DS-K2621X)



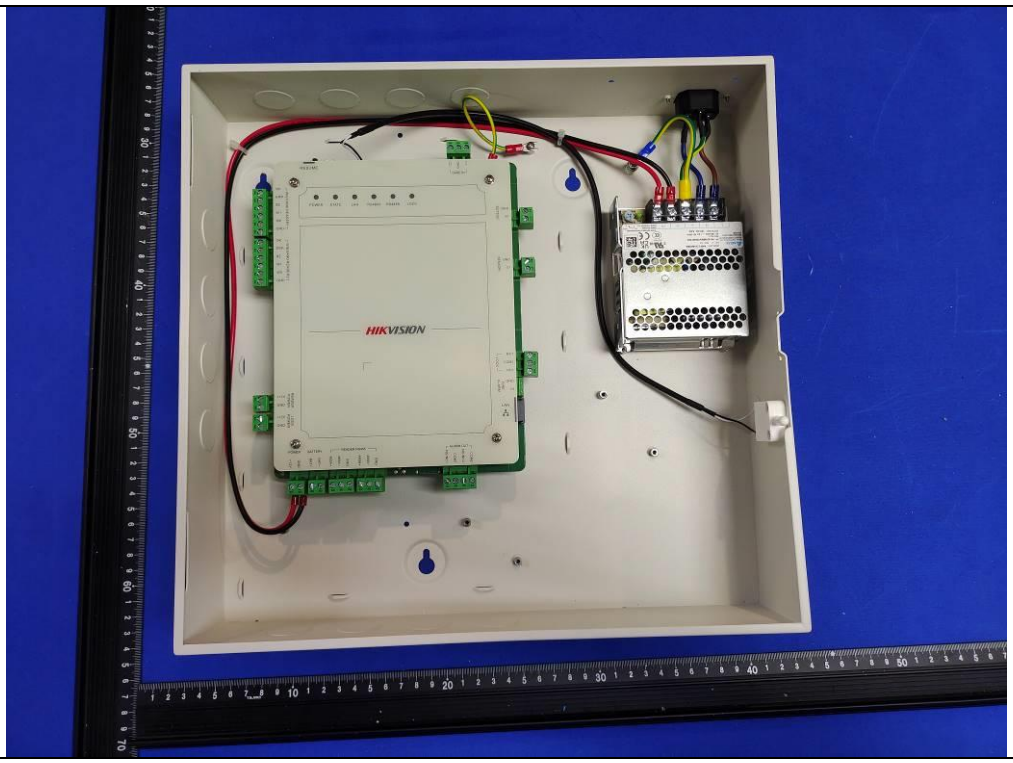
Details of: Internal View (Model DS-K2621X)



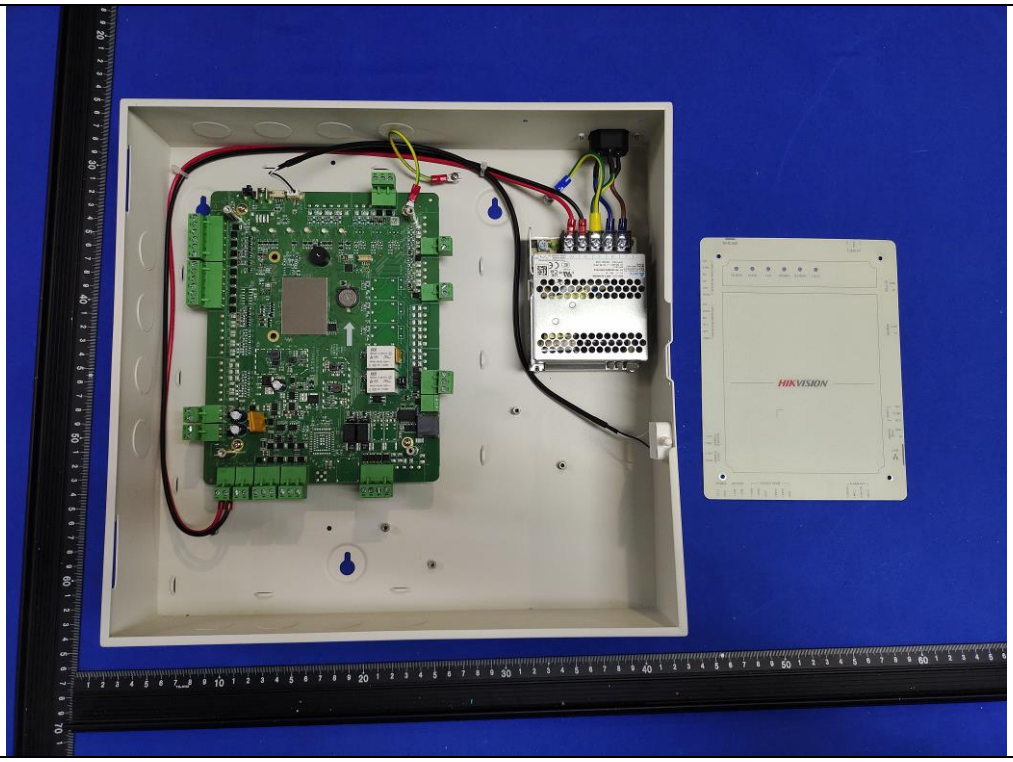
Details of: Internal View (Model DS-K2621X)



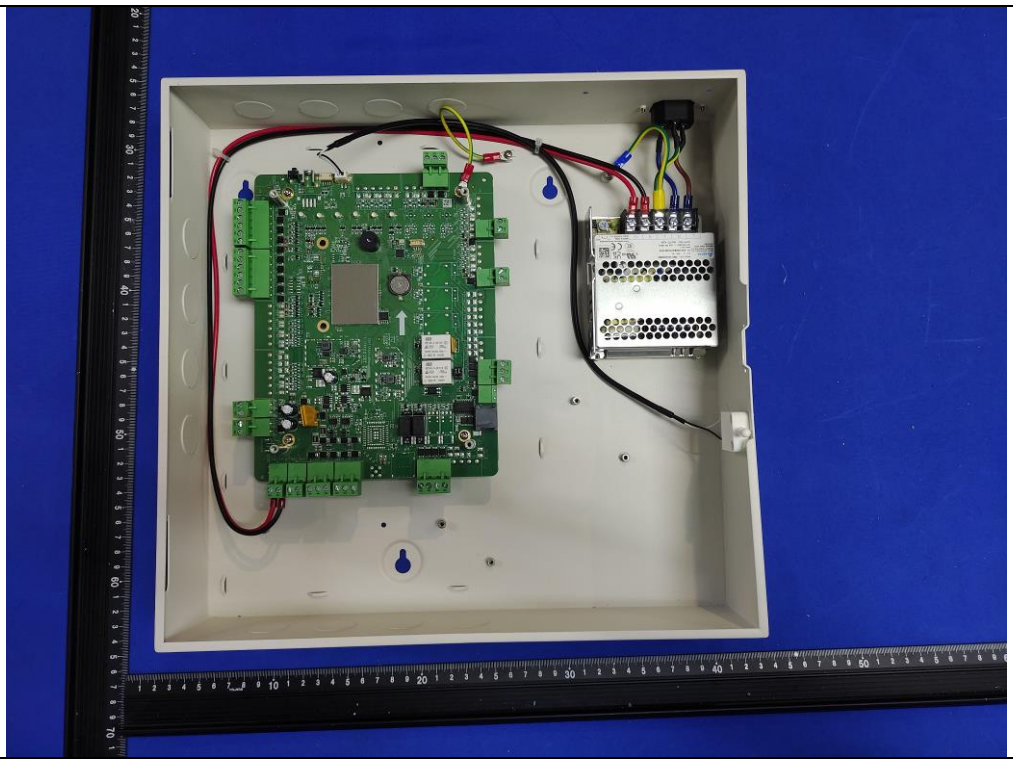
Details of: Internal View (Model DS-K2621X)



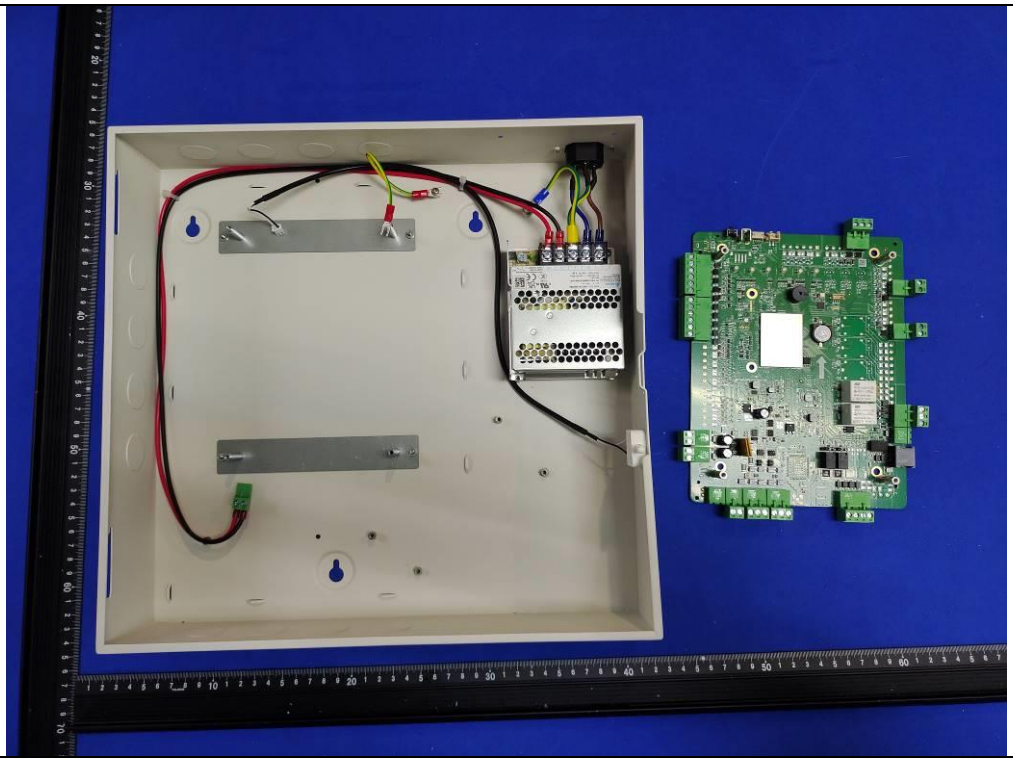
Details of: Internal View (Model DS-K2621X)



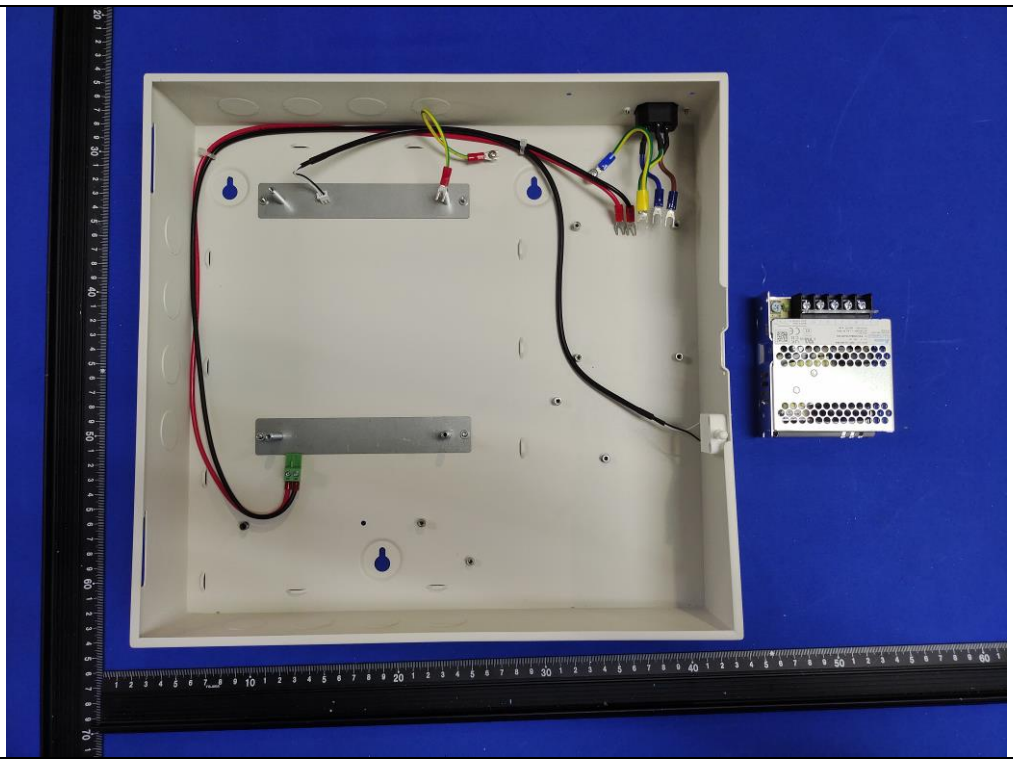
Details of: Internal View (Model DS-K2621X)



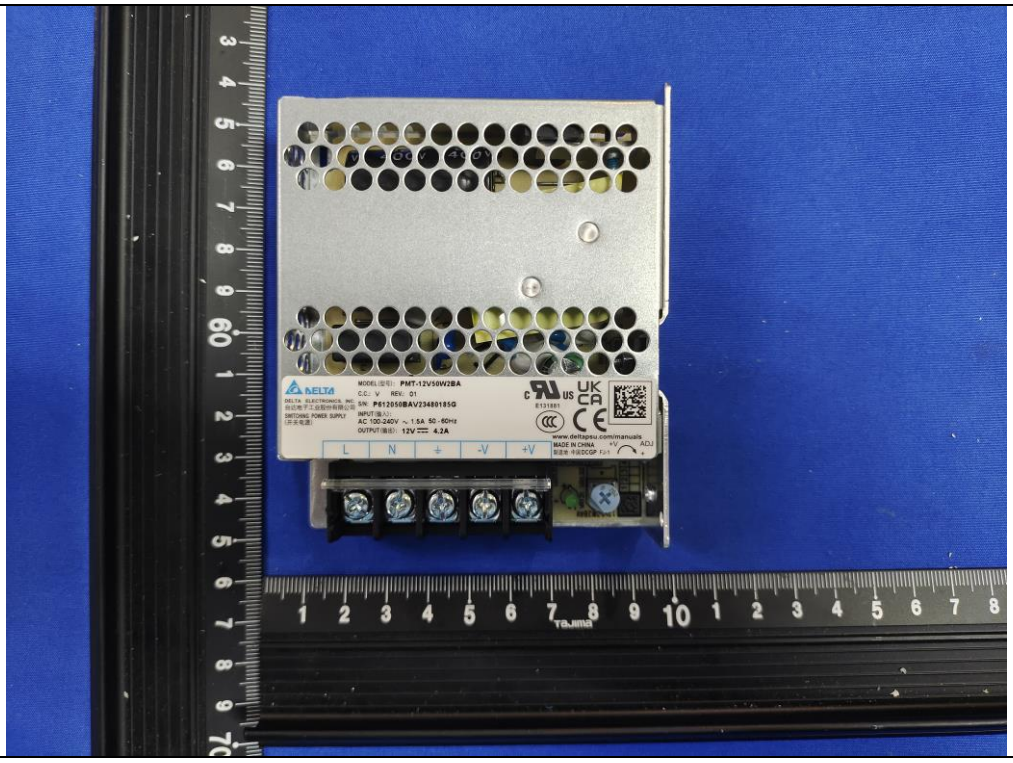
Details of: Internal View (Model DS-K2621X)



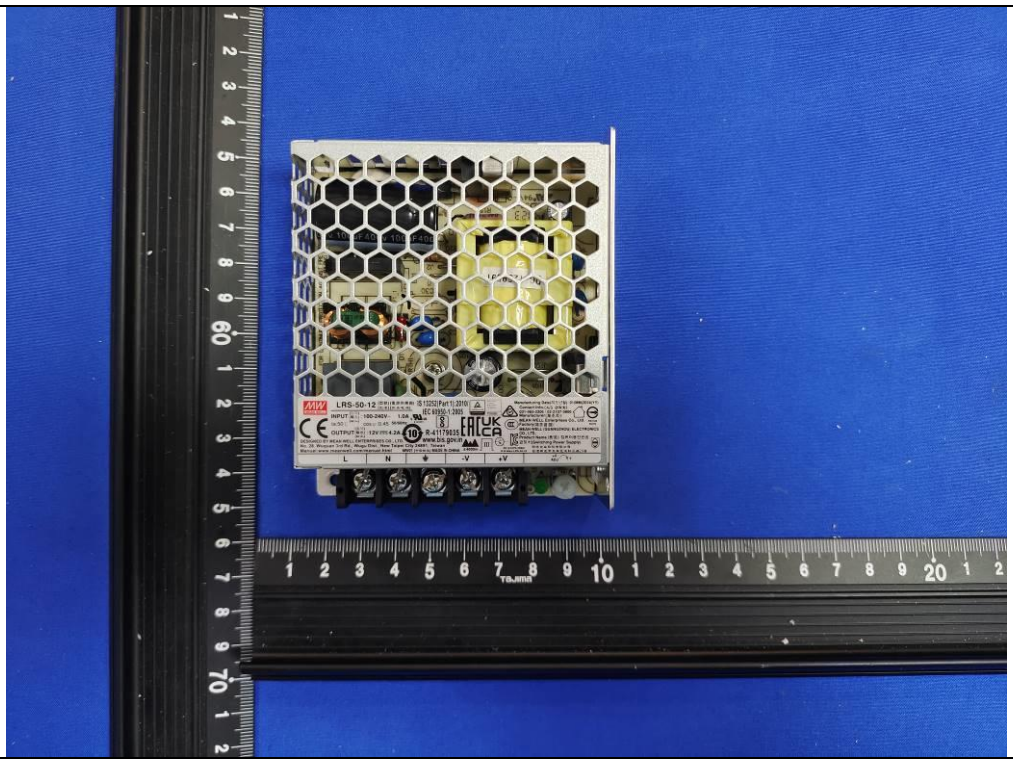
Details of: Internal View (Model DS-K2621X)



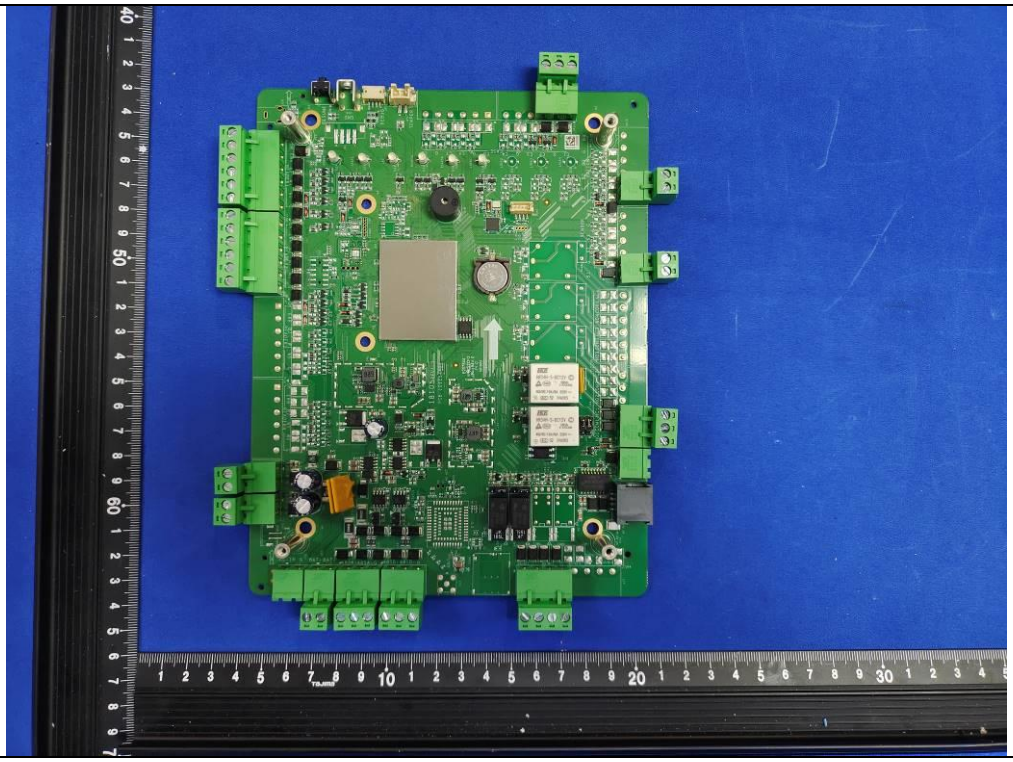
Details of: Building-in power supply PMT-12V50W2BA



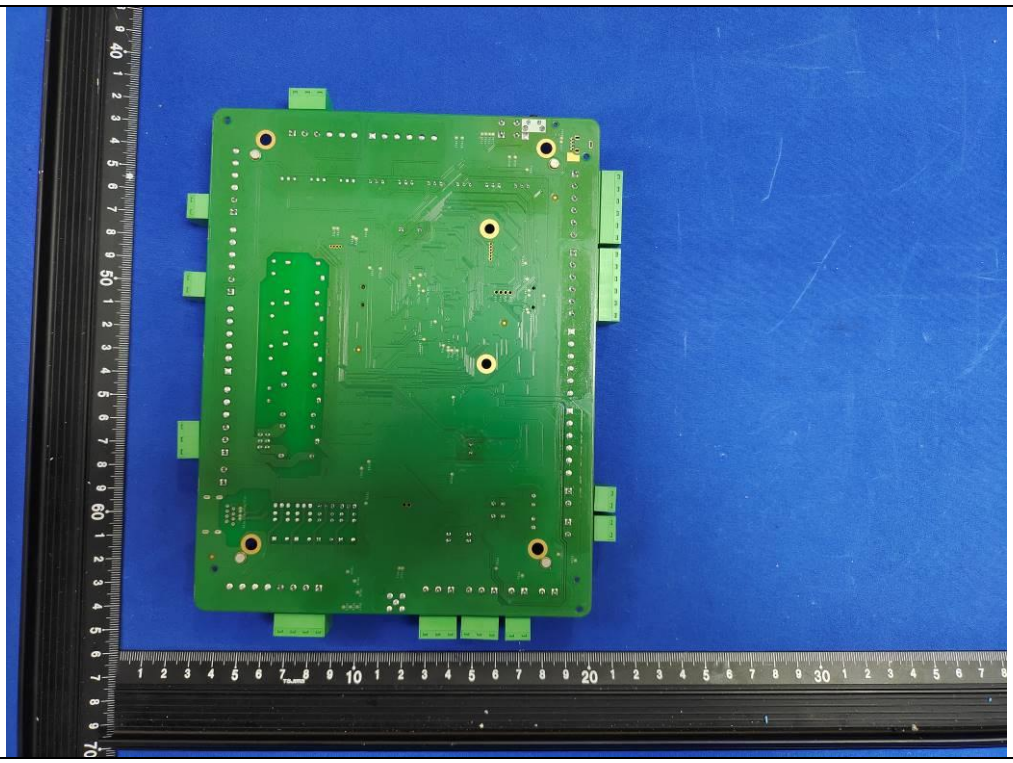
Details of: Building-in power supply LRS-50-12



Details of: Main board



Details of: Main board



Details of: Power cord

*******End of Attachment 1*******

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT **IEC 62368-1** **EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES** (Audio/video, information and communication technology equipment - Part 1: Safety requirements)			
Differences according to ..... : EN IEC 62368-1:2020+A11:2020			
Attachment Form No. ..... : EU_GD_IEC62368_1E **Attachment Originator**..... : UL(Demko) **Master Attachment** ..... : 2021-02-04			
	CENELEC COMMON MODIFICATIONS (EN)		P
	Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed “Z”.		P
	Add the following annexes: Annex ZA (normative) — Normative references to international publications with their corresponding European publications Annex ZB (normative) — Special national conditions Annex ZC (informative) — A-deviations Annex ZD (informative) — IEC and CENELEC code designations for flexible cords		P
1	**Modification to Clause 3 .**		N/A
3.3.19	**Sound exposure** *Replace 3.3.19 of IEC 62368-1 with the following definitions:*		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.19.1	**momentary exposure level, MEL** metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2. Note 1 to entry: MEL is measured as A-weighted levels in dB. Note 2 to entry: See B.3 of EN 50332-3:2017 for additional information.		N/A
3.3.19.3	**sound exposure, *E*** A-weighted sound pressure (p) squared and integrated over a stated period of time, T Note 1 to entry: The SI unit is Pa^2 s. $E = \int_0^T p(t)^2 \, dt$		N/A
3.3.19.4	**sound exposure level, *SEL*** logarithmic measure of sound exposure relative to a reference value, E_0, typically the 1 kHz threshold of hearing in humans. Note 1 to entry: *SEL* is measured as A-weighted levels in dB. $SEL = 10 \lg\left(\frac{E}{E_0}\right)$ dB Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.		N/A
3.3.19.5	**digital signal level relative to full scale, dBFS** levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.		N/A
2	**Modification to Clause 10**		N/A
10.6	**Safeguards against acoustic energy sources** Replace 10.6 of IEC 62368-1 with the following:		N/A
10.6.1.1	**Introduction** **Safeguard** requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered. A personal music player is a portable equipment intended for use by an **ordinary person**, that: – is designed to allow the user to listen to audio or audiovisual content / material; and – uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and – has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.). EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment. Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3. NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360. NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible. Listening devices sold separately shall comply with the requirements of 10.6.6. These requirements are valid for music or video mode only. The requirements do not apply to: – professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment. – hearing aid equipment and other devices for assistive listening; – the following type of analogue personal music players: • long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. – a player while connected to an external amplifier that does not allow the user to walk around		

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	while in use. For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply. The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		
10.6.1.2	**Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body mounted devices, attention is drawn to EN 50360 and EN 50566.		N/A
10.6.2	**Classification of devices without the capacity to estimate sound dose**		N/A
10.6.2.1	**General** This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3. For classifying the acoustic output $L_{Aeq,T}$, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may be done over the duration of the complete song. In this case, T becomes the duration of the song. NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit. For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.		N/A
10.6.2.2	**RS1 limits (to be superseded, see 10.6.3.2)**		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 85 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2.		
10.6.2.3	**RS2 limits (to be superseded, see 10.6.3.3)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 100 dB(A) when playing the fixed "programme simulation noise" as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed "programme simulation noise" as described in EN 50332-1.		N/A
10.6.2.4	**RS3 limits** RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		N/A
10.6.3	**Classification of devices (new)**		N/A
10.6.3.1	**General** Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.		

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.3.2	**RS1 limits (new)** RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq,T}$ acoustic output shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		N/A
10.6.3.3	**RS2 limits (new)** RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		N/A
10.6.4	**Requirements for maximum sound exposure**		N/A
10.6.4.1	**Measurement methods** All volume controls shall be turned to maximum during tests. Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.		N/A
10.6.4.2	**Protection of persons** Except as given below, protection requirements for parts **accessible** to **ordinary persons**, **instructed persons** and **skilled persons** are given in 4.3.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	NOTE 1 Volume control is not considered a **safeguard.** Between RS2 and an **ordinary person**, the **basic safeguard** may be replaced by an **instructional safeguard** in accordance with Clause F.5, except that the **instructional safeguard** shall be placed on the equipment, or on the packaging, or in the instruction manual. Alternatively, the **instructional safeguard** may be given through the equipment display during use. The elements of the **instructional safeguard** shall be as follows: – element 1a: the symbol  , IEC 60417-6044 (2011-01) – element 2: “High sound pressure” or equivalent wording – element 3: “Hearing damage risk” or equivalent wording – element 4: “Do not listen at high volume levels for long periods.” or equivalent wording An **equipment safeguard** shall prevent exposure of an **ordinary person** to an RS2 source without intentional physical action from the **ordinary person** and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off. The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time. NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed. NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off. A **skilled person** shall not be unintentionally exposed to RS3.		
10.6.5	**Requirements for dose-based systems**		N/A
10.6.5.1	**General requirements** Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical capabilities and device usage needs. If such optional settings are offered, an administrator (for example, parental restrictions, business/educational administrators, etc.) shall be able to lock any optional settings into a specific configuration. The personal music player shall be supplied with easy to understand explanation to the user of the dose management system, the risks involved, and how to use the system safely. The user shall be made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.		
10.6.5.2	**Dose-based warning and requirements** When a dose of 100 % *CSD* is reached, and at least at every 100 % further increase of *CSD*, the device shall warn the user and require an acknowledgement. In case the user does not acknowledge, the output level shall automatically decrease to compliance with class RS1. The warning shall at least clearly indicate that listening above 100 % *CSD* leads to the risk of hearing damage or loss.		N/A
10.6.5.3	**Exposure-based requirements** With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at. The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3. The EL settling time (time from starting level reduction to reaching target output) shall be 10 s or faster. Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface. NOTE In case the source is known not to be music (or test signal), the EL may be disabled.		

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

10.6.6	**Requirements for listening devices (headphones, earphones, etc.)**		N/A
10.6.6.1	**Corded listening devices with analogue input** With 94 dB L_{Aeq} acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the input voltage of the listening device when playing the fixed "programme simulation noise" as described in EN 50332-1 shall be ≥ 75 mV. NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.		N/A
10.6.6.2	**Corded listening devices with digital input** With any playing device playing the fixed "programme simulation noise" described in EN 50332-1, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.3	**Cordless listening devices** In cordless mode, – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the cordless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the receiving device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the above mentioned programme simulation noise, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.		N/A
10.6.6.4	**Measurement method** *Measurements shall be made in accordance with EN 50332-2 as applicable.*		N/A
3	**Modification to the whole document**		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Delete all the “country” notes in the reference document according to the following list:		N/A

0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2
3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2
5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3
5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note
5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note
5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4
5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2
8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2
~~10.6.1~~	Note 3	F.3.3.6	Note 3	Y.4.1	Note
Y.4.5	Note				

4	**Modification to Clause 1**		P
1	***Add** the following note:* *NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.*		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5	**Modification to 4.Z1**		N/A
4.Z1	***Add*** *the following new subclause after 4.9:* To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B** or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A
6	**Modification to 5.4.2.3.2.4**		N/A
5.4.2.3.2.4	***Add*** *the following to the end of this subclause:* The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.		N/A
7	**Modification to 10.2.1**		N/A
10.2.1	Add the following to [c)] and [d)] in table 39: For additional requirements, see 10.5.1.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

8	**Modification to 10.5.1**		N/A
10.5.1	***Add*** *the following after the first paragraph:* For RS 1 compliance is checked by measurement under the following conditions: In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made. NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm^2, at any point 10 cm from the outer surface of the apparatus. Moreover, the measurement shall be made under fault conditions causing an increase of the high voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made. For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level. NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
9	**Modification to G.7.1**		N/A
G.7.1	***Add*** *the following note:* NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

10	**Modification to Bibliography**		N/A
	Add the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		N/A
11	**ADDITION OF ANNEXES**		N/A
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		N/A
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.7.3	**United Kingdom** To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex		N/A
5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.4.11.1 and Annex G	**Finland and Sweden** To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.		N/A
5.6.1	**Denmark** **Add** to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		N/A
5.6.4.2.1	**Ireland and United Kingdom** After the indent for **pluggable equipment type A**, the following is added: – the **protective current rating** is taken to be 13 A, this being the largest rating of fuse used in the **mains** plug.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.4.2.1	**France** After the indent for **pluggable equipment type A**, the following is added: – in certain cases, the **protective current rating** of the circuit supplied from the mains is taken as 20 A instead of 16 A.		N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm^2 to 1,5 mm^2 in cross-sectional area.		N/A
5.6.8	**Norway** To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as **class I equipment**. See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.		N/A
5.7.6	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A
5.7.7.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	nettet." Translation to Swedish: "Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.".		
8.5.4.2.3	**United Kingdom** Add the following after the 2nd dash bullet in 3rd paragraph: An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.		N/A
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	**Denmark** To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a polyphase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a *Justification:* Heavy Current Regulations, Section 6c		N/A
G.4.2	**United Kingdom** To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	**United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc. (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
G.7.1	**Ireland** To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard		N/A
G.7.2	**Ireland and United Kingdom** To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm^2 is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification*: German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

ZD	**IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)**	N/A
		N/A

Type of flexible cord	Code designations	
	IEC	CENELEC
PVC insulated cords		
Flat twin tinsel cord	60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord	60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord	60227 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords		
Braided cord	60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord	60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord	60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord	60245 IEC 66	H07RN-F
Cords having high flexibility		
Rubber insulated and sheathed cord	60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord	60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord	60245 IEC 88	H03V4V4-H
Cords insulated and sheathed with halogen-free thermoplastic compounds		
Light halogen-free thermoplastic insulated and sheathed flexible cords		H03Z1Z1-F H03Z1Z1H2-F
Ordinary halogen-free thermoplastic insulated and sheathed flexible cords		H05Z1Z1-F H05Z1Z1H2-F

---End of Attachment 2---

Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into Dangers and Cautions:

Dangers: Neglecting any of the warnings may cause serious injury or death.

Cautions: Neglecting any of the cautions may cause injury or equipment damage.

⚠	⚠
Dangers: Follow these safeguards to prevent serious injury or death.	**Cautions:** Follow these precautions to prevent potential injury or material damage.

⚠ Danger:

- All the electronic operation should be strictly compliance with the electrical safety regulations, fire prevention regulations and other related regulations in your local region.
- Please use the power adapter, which is provided by normal company. The power consumption cannot be less than the required value.
- Do not connect several devices to one power adapter as adapter overload may cause over-heat or fire hazard.
- Please make sure that the power has been disconnected before you wire, install or dismantle the device.
  If the top caps should be open and the device should be powered on for maintenance, make sure:
  1. Power off the fan to prevent the operator from getting injured accidentally.
  2. Do not touch bare high-voltage components.
  3. Make sure the switch's wiring sequence is correct after maintenance.
- Please make sure that the power has been disconnected before you wire, install or dismantle the device.
- When the product is installed on wall or ceiling, the device shall be firmly fixed.
- If smoke, odors or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.
- Do not ingest battery, Chemical Burn Hazard.
  This product contains a coin/button cell battery. If the coin/button cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.
  Keep new and used batteries away from children. If the battery compartment does not close securely, stop using the product and keep it away from children. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the device yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)

⚠ **Cautions:**

- Stainless steel may be corroded in some circumstances. You need to clean and care the device by using the stainless steel cleaner. It is suggested to clean the device every month.
- Do not drop the device or subject it to physical shock, and do not expose it to high electromagnetism radiation. Avoid the equipment installation on vibrations surface or places subject to shock (ignorance can cause equipment damage).
- Do not place the device in extremely hot (refer to the specification of the device for the detailed operating temperature), cold, dusty or damp locations, and do not expose it to high electromagnetic radiation.
- The device cover for indoor use shall be kept from rain and moisture.
- Exposing the equipment to direct sun light, low ventilation or heat source such as heater or radiator is forbidden (ignorance can cause fire danger).
- Do not aim the device at the sun or extra bright places. A blooming or smear may occur otherwise (which is not a malfunction however), and affecting the endurance of sensor at the same time.
- Please use the provided glove when open up the device cover, avoid direct contact with the device cover, because the acidic sweat of the fingers may erode the surface coating of the device cover.
- Please use a soft and dry cloth when clean inside and outside surfaces of the device cover, do not use alkaline detergents.
- Please keep all wrappers after unpack them for future use. In case of any failure occurred, you need to return the device to the factory with the original wrapper. Transportation without the original wrapper may result in damage on the device and lead to additional costs.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.
- Biometric recognition products are not completely applicable to anti-spoofing environments. If you require a higher security level, use multiple authentication modes.
- Do not stay in the lane when the device is rebooting.
- RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
- SUITABLE FOR MOUNTING ON CONCRETE OR OTHER NON-COMBUSTIBLE SURFACE ONLY.
- The instructions shall require connection of the equipment protective earthing conductor to the installation protective earthing conductor.
- The main switch of the device connects to the building system.

*******End of attachment 3*******