Test Report issued under the responsibility of:

TEST REPORT
IEC 61010-1
Safety requirements for electrical equipment for measurement, control, and laboratory use
Part 1: General requirements

Report Number. .....:	SHES221202191801
Date of issue .....:	2023-02-28
Total number of pages.....:	89 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 61010-1:2010, IEC 61010-1:2010/AMD1:2016
Test procedure .....:	CB Scheme
Non-standard test method .....:	N/A
TRF template used.....:	IECEE OD-2020-F1:2020, Ed.1.3
Test Report Form No. .....:	IEC61010_1P
Test Report Form(s) Originator ....:	VDE Prüf- und Zertifizierungsinstitut GmbH
Master TRF.....:	2021-04-12

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved IECEE 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.
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Test item description..... :	Walk-through Metal Detector Case
Trade Mark..... :	HIKVISION
Manufacturer ..... :	Same as applicant
Model/Type reference..... :	ISD-SMG1112L/CASE, ISD-SMG1118L/CASE, ISD-SMG1106L/CASE, ISD-SMG*****/CASE ("*"=0-9 or A-Z)
Ratings..... :	100 - 240 V a. c., 50 / 60 Hz, 1 A Max; Class I

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 + 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)		
Document No.	Documents included / attached to this report (description)	Page No.
Attachment 1	Photos documents	7
Attachment 2	EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES	1
Attachment 3	Technical documentation	3
Attachment 4	Equipment List	1

Documents referenced by this report (available on request):		
Document Name or No.	Documents description	Page No.
N/A		

Summary of testing:

The sample(s) tested complies with the requirements of IEC 61010-1:2010, AMD1:2016; EN 61010-1:2010 + A1:2019.

Unless otherwise specified, the EUT with model ISD-SMG1112L/CASE was selected as representative model for full testing.

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

K-type thermocouple used for temperature measurement.

Clause	Comment
See “tests performed”	All applicable tests as described in the compliance checklist were performed at SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. 588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Test Report History:
This report may consist of more than one report and is only valid with additional or previous issued reports:

Report Ref. No.	Item
N/A	

Tests performed (name of test and test clause):	**Testing location:**
4.4 Testing in single fault conditions 5.1.3 Mains supply 5.3 Durability of markings 6.2 Determination of accessible parts 6.3 Limit values for accessible parts 6.4 Primary means of protection 6.5.3 Supplementary and reinforced insulation 6.6 Connections to external circuits 6.7 Insulation requirements 6.8 Procedure for voltage tests 6.9 Constructional requirements for protection against electric shock 7.2 Sharp edges 8.2 Enclosure rigidity test 9 Protection against the spread of fire 10 Equipment temperature limits and resistance to heat 11.2 Cleaning 13.2 Battery 14 Components and subassemblies	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 61010-1:2010 + A1:2019)

☒ **The product fulfils the above requirements.**

Statement concerning the uncertainty of the measurement systems used for the tests
(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**
Procedure number, issue date and title:

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

☒ **Statement not required by the standard used for type 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 ISD-SMG1112L/CASE

Remark:

1) The Height of CE and UKCA logo shall not be less than 5 mm; Height of WEEE logo shall not be less than 7 mm;

2) The marking plates for other models are of the same pattern except for model name.

3) 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 products before being placed on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

Test item particulars:	
Type of item .....:	Measured
Description of equipment function .....:	The equipment under test is Class I Walk-through Metal Detector Case, which is powered by building-in power supply. It must work with Walk-through Metal Detector Plank
Connection to MAINS supply .....:	Detachable cord set
Overvoltage category.....:	II
POLLUTION DEGREE .....:	2
Means of protection .....:	Class I (PE connected)
Environmental conditions .....:	Extended (Specify): -20 to 55 °C; 10% - 95% Rh, Altitude:2000m
For use in wet locations.....:	No
Equipment mobility .....:	Stationary
Operating conditions .....:	Continuous
Overall size of equipment (W x D x H) .....:	830 mm(w) × 580 mm(d) × 2200 mm(h)(with the plank)
Mass of equipment (kg) .....:	57kg (with the plank)
Marked degree of protection to IEC 60529.....:	N/A
Possible test case verdicts:	
- Test case does not apply to the test object.....:	N/A (Not Applicable)
- Test object does meet the requirement .....:	P (Pass)
- Test object does not meet the requirement.....:	F (Fail)
Testing:	
Date of receipt of test item .....:	2022-12-08
Date (s) of performance of tests.....:	2022-12-08 to 2022-12-22

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.
"(see ENCLOSURE #)" refers to additional information appended to the report.
"(see Form A.xx)" refers to a Table appended to the report.
Bottom lines for measurement Tables Forms A.xx are optional if used as record.

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: Declaration letter- Walk-though Metal Detector.pdf, dated 2022-12-12**
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

General product information and other remarks:

Functions	The equipment under test is Class I Walk-through Metal Detector Case, which is powered by building-in power supply. It must work with Walk-through Metal Detector Plank
Material of enclosure	Plastic & Wood
Model differences	All the models are identical except for model name and screen size which have no impact for safety.
Others	Indoor use only Walk-through Metal Detector contains Walk-through Metal Detector Case and Walk-through Metal Detector Plank.

Description of model differences:
See above.

Description of special features:

IEC 61010-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	**TESTS**		P
4.4	Testing in SINGLE FAULT CONDITIONS		P
4.4.1	Fault tests	(see Form A.1)	P
4.4.2	Application of SINGLE FAULT CONDITIONS		P
4.4.2.1	SINGLE FAULT CONDITIONS not covered by 4.4.2.2 to 4.4.2.14	(see Form A.1)	P
4.4.2.2	PROTECTIVE IMPEDANCE		N/A
4.4.2.3	PROTECTIVE CONDUCTOR	(see Form A.6)	P
4.4.2.4	Equipment or parts for short-term or intermittent operation		N/A
4.4.2.5	Motors		—
	– stopped while fully energized		N/A
	– prevented from starting		N/A
	– one phase interrupted (multi-phase)		N/A
4.4.2.6	Capacitors		N/A
4.4.2.7	MAINS transformers	Evaluated in the Certified Power Supply	P
4.4.2.7.2	Short circuit	(see Form A.39)	N/A
4.4.2.7.3	Overload	(see Forms A.26B and A.40)	N/A
4.4.2.8	Outputs		P
4.4.2.9	Equipment for more than one supply		N/A
4.4.2.10	Cooling	(see Form A.26A)	—
	– air holes closed		P
	– fans stopped		N/A
	– coolant stopped		N/A
	– loss of cooling liquid		N/A
4.4.2.11	Heating devices		—
	– timer overridden		N/A
	– temperature controller overridden		N/A
4.4.2.12	Insulation between circuits and parts		N/A
4.4.2.13	Interlocks		N/A
4.4.2.14	Voltage selectors		N/A
4.4.3	Duration of tests	(see Form A.1)	—
4.4.4	Conformity after application of fault conditions	(see Forms A.1, A.6 and A.18)	P
5	**MARKING AND DOCUMENTATION**		P
5.1	**Marking**		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.1	General		P
	Required equipment markings		—
	– Visible from the exterior; or	Equipment marking and protective earthing marking	P
	– Visible after removing cover or opening door		N/A
	– Visible after removal from a rack or panel		N/A
	Not put on parts which can be removed by an operator		P
	Letter symbols (IEC 60027) used		P
	Graphic symbols of Table 1 used		P
5.1.2	Identification		P
	Equipment is identified by:		—
	a) Manufacturer's or supplier's name or trademark	Trade-mark was provided on the marking label.	P
	b) Model number, name or other means	Model number was provided on the marking label.	P
	Manufacturing location identified	Only one factory	N/A
5.1.3	MAINS supply		P
	Equipment is marked as follows:		—
	a) Nature of supply:		—
	1) a.c. RATED MAINS frequency or range of frequencies.....:	See copy of marking plate	—
	2) d.c. with symbol 1.....:	See copy of marking plate	—
	b) RATED supply voltage(s) or range .....:	AC: 100-240V	—
	c) Max. RATED power (W or VA) or input current..:	1 A	—
	The marked value not less than 90 % of the maximum value	(see Form A.2)	P
	If more than one voltage range:		—
	Separate values marked; or		P
	Values differ by less than 20 %	(see Form A.2)	N/A
	d) OPERATOR-set for different RATED supply voltages:		—
	Indicates the equipment set voltage		N/A
	PORTABLE EQUIPMENT indication is visible from the exterior		N/A
	Changing the setting changes the indication		N/A
	e) Accessory MAINS socket-outlets accepting standard MAINS plugs are marked:		—
	With the voltage if it is different from the MAINS supply voltage..... :		—
	For use only with specific equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If not marked for specific equipment it is marked with:		—
	The maximum RATED current or power; or		N/A
	.....Symbol 14 with full details in the documentation		N/A
5.1.4	Fuses		P
	OPERATOR replaceable fuse marking (see also 5.4.5)..... :	Near fuse	—
5.1.5	TERMINALS, connections and operating devices		P
5.1.5.1	General		P
	Where necessary for safety, indication of purpose of TERMINALS, connectors, controls and indicators marked	Equipment is marked with necessary information, see following subclause	P
	If insufficient space, symbol 14 used		N/A
	Push-buttons and actuators of emergency stop devices and indicators:		—
	– used only to indicate a warning of danger; or		N/A
	– the need for urgent action		N/A
	– coloured red		N/A
	– coded as specified in IEC 60073		N/A
	Supplementary means of coding provided, if meaning of colour relates (see IEC 60073):		—
	– to safety of persons; or		N/A
	– safety of the environment		N/A
5.1.5.2	TERMINALS		—
	MAINS supply TERMINAL identified		P
	Other TERMINAL marking:		—
	a) FUNCTIONAL EARTH TERMINALS marked with symbol 5		N/A
	b) protective conductor terminals:		—
	Symbol 6 is placed close to or on the TERMINAL; or		N/A
	Part of appliance inlet		P
	c) TERMINALS of circuits (symbol 7 used)		N/A
	d) HAZARDOUS LIVE TERMINALS supplied from the interior		N/A
	Standard MAINS socket outlet used; or		N/A
	RATINGS marked; or		N/A
	Symbol 14 used		N/A
5.1.6	Switches and circuit-breakers	Switch used as disconnect device	P

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Clause	Requirement + Test	Result - Remark	Verdict
	If disconnecting device, off position clearly marked	I/O	P
	If push-button used as power supply switch:		—
	– Symbol 9 and 15 used for on-position		N/A
	– Symbol 10 and 16 used for off-position		N/A
	– Pair of symbols 9, 15 and 10, 16 close together		N/A
5.1.7	Equipment protected by DOUBLE INSULATION or REINFORCED INSULATION		P
	Protected throughout (symbol 11 used)		N/A
	Only partially protected (symbol 11 not used)		P
5.1.8	Field-wiring TERMINAL boxes		N/A
	If TERMINAL or ENCLOSURE exceeds 60 °C:	(see Form A.26A)	—
	Cable temperature RATING marked .....:		—
	Marking visible before and during connection or beside TERMINAL		N/A
5.2	**Warning markings**		P
	Visible when ready for NORMAL USE		P
	Are near or on applicable parts	Near AC inlet	P
	Symbols and text correct dimensions and colour:		—
	a) Symbols min 2,75 mm and text 1,5 mm high and contrasting in colour with background		P
	b) Symbols and text moulded, stamped or engraved in material min. 2,0 mm high and		N/A
	0,5 mm depth or raised if not contrasting in colour		N/A
	If necessary marked with symbol 14, or		N/A
	Additional symbols such as symbol 12, 13 or 17 used to indicate the nature of HAZARD		P
	Statement to place equipment in a safe state before access by using a tool to HAZARDOUS parts is permitted		P
5.3	**Durability of markings**		P
	The required markings remain clear and legible in NORMAL USE	(see Form A.3)	P
5.4	**Documentation**		P
5.4.1	General	Sufficient information provided in the Attachment 3	P
	Equipment is accompanied by documentation for safety purposes for OPERATOR or RESPONSIBLE BODY		P
	Safety documentation for service personnel authorized by the manufacturer		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Documentation necessary for safe operation is provided in printed media or		P
	in electronic media if available at any time		N/A
	Documentation includes:	Sufficient information provided in the user manual, see below for details	—
	a) Intended use		P
	b) Technical specification		P
	c) Name and address of manufacturer or supplier		P
	d) Information specified in 5.4.2 to 5.4.6		P
	e) Information to mitigate residual RISK (see also subclause 17)		N/A
	f) Accessories for safe operation of the equipment specified	Accessories for safe operation in the user manual, see Attachment 5 for details	P
	g) Guidance provided to check correct function of the equipment, if incorrect reading may cause a HAZARD from harmful or corrosive substances of HAZARDOUS live parts		N/A
	h) Instructions for lifting and carrying	In the user manual	P
	Warning statements and a clear explanation of warning symbols:		—
	– provided in the documentation; or		P
	– information is marked on the equipment		N/A
5.4.2	Equipment RATINGS		P
	Documentation includes:	Sufficient information provided in the user manual, see below for details	—
	a) Supply voltage or voltage range.....:	AC: 100-240V.	—
	Frequency or frequency range.....:	50/60Hz	—
	Power or current rating.....:	AC:1A	—
	b) Description of all input and output connections in accordance to 6.6.1 a)	Sufficient information provided in the user manual	P
	c) Rating of insulation of external circuits in accordance to 6.6.1 b)	The DC input power should meet the requirement of reinforced insulation	N/A
	d) Statement of the range of environmental conditions (refer to 1.4):	Sufficient information provided in the user manual, see below for details	—
	1) indoor or outdoor use,	Indoor used.	P

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Clause	Requirement + Test	Result - Remark	Verdict
	2) altitude,	2000m	P
	3) temperature,	-20°C to 55°C	P
	4) relative humidity,	10% - 95%	P
	5) MAINS supply voltage fluctuations,	+10%, -10%	P
	6) OVERVOLTAGE CATEGORY,	II	P
	7) WET LOCATION, if applicable,		N/A
	8) POLLUTION DEGREE of the intended environment	Pollution degree 2.	P
	e) Degree of ingress protection (IEC 60529)		N/A
	f) If impact rating less than 5 J:		—
	IK code in accordance to IEC 62262 marked; or		N/A
	symbol 14 of Table 1 marked, with		N/A
	RATED energy level and test method stated		N/A
5.4.3	Equipment installation		P
	Documentation includes instructions for:	Sufficient information provided in the user manual, see below for details	—
	a) Assembly, location and mounting requirements		P
	b) Instructions for protective earthing		P
	c) Connections to supply		P
	d) PERMANENTLY CONNECTED EQUIPMENT:		—
	1) Supply wiring requirements		N/A
	2) If external switch or circuit-breaker, requirements and location recommendation		N/A
	e) Ventilation requirements		P
	f) Safety characteristics for special external services (e. g. maximum and minimum temperature, pressure, flow of air, cooling liquid)		N/A
	g) Instructions relating to sound level		N/A
5.4.4	Equipment operation		P
	Instructions for use include:	Sufficient information provided in the user manual, see below for details	—
	a) Identification and description of operating controls		P
	b) Positioning for disconnection		P

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Instructions for interconnection to accessories or other equipment		P
	d) Specification of intermittent operation limits		N/A
	e) Explanation of symbols used		P
	f) Replacement of consumable materials		N/A
	g) Cleaning and decontamination		P
	h) Listing of any poisonous or injurious gases and quantities		N/A
	i) RISK reduction procedures relating to flammable liquids (see 9.5 c)		N/A
	j) RISK reduction procedures relating burn from surfaces permitted to exceed limits of 10.1		N/A
	Additional precautions for IEC 60950 conforming equipment in regard to moistures and liquids		N/A
	A statement about protection impairment if used in a manner not specified by the manufacturer	Sufficient information provided in the user manual, see below for details	—
5.4.5	Equipment maintenance and service		P
	Instructions for RESPONSIBLE BODY include:	See follow	—
	Instructions sufficient in detail permitting safe maintenance and inspection and continued safety:	Sufficient detail to permit safe maintenance, inspection and testing of the equipment, and to ensure continued safety of the equipment after the maintenance inspection and test procedure	—
	Instruction against the use of detachable MAINS supply cord with inadequate RATING		P
	Specific battery type of user replaceable batteries		N/A
	Any manufacturer specified parts		P
	RATING and characteristics of fuses		P
	Instructions include following subjects permitting safe servicing and continued safety:		—
	a) Product specific RISKS may affect service personnel		N/A
	b) Protective measures for these RISKS		N/A
	c) Verification of the safe state after repair		N/A
5.4.6	Integration into systems or effects resulting from special conditions		P
	Aspects described in documentation		P

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Clause	Requirement + Test	Result - Remark	Verdict
6	**PROTECTION AGAINST ELECTRIC SHOCK**		P
6.1	**General**	(see Forms A.14 and A.15)	P
6.1.1	Requirements		P
	Protection against electric shock maintained in NORMAL CONDITION and SINGLE FAULT CONDITION		P
	ACCESSIBLE parts not HAZARDOUS LIVE		P
	Voltage, current, charge or energy below the limits in NORMAL CONDITION and in SINGLE FAULT CONDITION between:		—
	ACCESSIBLE parts and earth		P
	two ACCESSIBLE parts on same piece of the equipment within a distance of 1,8 m		P
	Conformity is checked by the determination of 6.2 and 6.3 followed by the tests of 6.4 to 6.11		P
6.1.2	Exceptions		N/A
	Following HAZARDOUS LIVE parts may be ACCESSIBLE to an OPERATOR:		—
	a) parts of lamps and lamp sockets after lamp removal		N/A
	b) parts to be replaced by OPERATOR only by the use of tool and warning marking		N/A
	Those parts not HAZARDOUS LIVE 10 s after interruption of supply	(see Form A.5)	N/A
	Capacitance test if charge is received from internal capacitor	(see Forms A.4 and A.5)	N/A
6.2	**Determination of ACCESSIBLE parts**	(see Form A.4)	P
6.2.1	General		P
	Unless obviously determination of ACCESSIBLE parts as specified in 6.2.2 to 6.2.4		P
6.2.2	Examination		P
	– with jointed test finger (as specified B.2)		P
	– with rigid test finger (as specified B.1) and a force of 10 N		P
6.2.3	Openings above parts that are HAZARDOUS LIVE	No openings above parts that are HAZARDOUS LIVE	P
	– test pin with length of 100 mm and 4 mm in diameter applied		N/A
6.2.4	Openings for pre-set controls		N/A
	– test pin with length of 100 mm and 3 mm in diameter applied		N/A
6.3	**Limit values for ACCESSIBLE parts**		P
6.3.1	Levels in NORMAL CONDITION	(see Form A.5)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	a) Voltage limits less than 30 V r.m.s. and 42,4 V peak or 60 V d.c.		P
	for WET LOCATIONS voltage limits less than 16 V r.m.s. and 22,6 V peak or 35 V d.c.		N/A
	Voltages are not HAZARDOUS LIVE the levels of:		—
	b) Current less than 0,5 mA r.m.s. for sinusoidal, 0,7 mA peak non-sinusoidal or mixed frequencies or 2 mA d.c. when measured with measuring circuit A.1 or A.2 if less than 100 Hz		P
	for WET LOCATIONS measuring circuit A.4 used		N/A
	70 mA r.m.s. when measured with circuit A.3 for higher frequencies		N/A
	c) Levels of capacitive charge or energy less:		—
	1) 45 µC for voltages up to 15 kV peak or d.c. or line A of Figure 3		N/A
	2) 350 mJ stored energy for voltages above 15 kV peak or d.c.		N/A
6.3.2	Levels in SINGLE FAULT CONDITION	(see Form A.6)	P
	a) Voltage limits less than 50 V r.m.s. and 70 V peak or 120 V d.c.		P
	for WET LOCATIONS voltage limits less than 33 V r.m.s. and 46,7 V peak or 70 V d.c.		N/A
	Voltages are not HAZARDOUS LIVE the levels of:		—
	b) Current less than 3,5 mA r.m.s. for sinusoidal, 5 mA peak non-sinusoidal or mixed frequencies or 15 mA d.c. when measured with measuring circuit A.1 or A.2 if less than 100 Hz		P
	for WET LOCATIONS measuring circuit A.4 used		N/A
	500 mA r.m.s. when measured with circuit A.3 for higher frequencies		N/A
	c) Levels of capacitive charge or energy less line B of Figure 3		N/A
6.4	**Primary means of protection**		P
6.4.1	General		P
	ACCESSIBLE parts prevented from being HAZARDOUS LIVE by one or more of following means:		—
	a) ENCLOSURES or PROTECTIVE BARRIERS (see 6.4.2)		P
	b) BASIC INSULATION (see 6.4.3)		P
	c) Impedance (see 6.4.4)		N/A

IEC 61010-1			
Clause	Requirement + Test	Result - Remark	Verdict
6.4.2	ENCLOSURES or PROTECTIVE BARRIERS	(see Forms A.15 and A.16)	P
	– meet rigidity requirements of 8.1		P
	– meet requirements for BASIC INSULATION, if protection is provided by insulation		N/A
	– meet requirements of 6.7 for CREEPAGE and – CLEARANCES between ACCESSIBLE parts and – HAZARDOUS live parts, if protection is provided by – limited access		P
6.4.3	BASIC INSULATION	(see Forms A.15 and A.16)	P
	– meet CLEARANCE, CREEPAGE DISTANCE and solid insulation requirements of 6.7		P
6.4.4	Impedance	(see Forms A.12 and A.15)	N/A
	Impedance used as primary means of protection meets all the following requirements:		—
	a) limits current or voltage to level of 6.3.2	(see Form A.6)	N/A
	b) RATED for maximum WORKING VOLTAGE and the amount of power it will dissipate		N/A
	c) CLEARANCE, CREEPAGE DISTANCE between terminations of the impedance meet requirements of BASIC INSULATION of 6.7	(see Form A.15)	N/A
6.5	**Additional means of protection in case of SINGLE FAULT CONDITION**		P
6.5.1	General		P
	ACCESSIBLE parts are prevented from becoming HAZARDOUS live by the primary means of protection and supplemented by one of:		—
	a) PROTECTIVE BONDING (see 6.5.2)		P
	b) SUPPLEMENTARY INSULATION (see 6.5.3)		N/A
	c) automatic disconnection of the supply (see 6.5.5)		N/A
	d) current- or voltage-limiting device (see 6.5.6)		N/A
	Alternatively one of the single means of protection is used:		—
	e) REINFORCED INSULATION (see 6.5.3)		P
	f) PROTECTIVE IMPEDANCE (see 6.5.4)		N/A
6.5.2	PROTECTIVE BONDING	(see Forms A.7, A.8, A.9, A.10 or A.11)	P
6.5.2.1	General		P
	ACCESSIBLE conductive parts, may become HAZARDOUS LIVE in SINGLE FAULT CONDITION:		—
	Bonded to the PROTECTIVE CONDUCTOR TERMINAL; or		P
	Separated by conductive screen or barrier bonded to PROTECTIVE CONDUCTOR TERMINAL		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.5.2.2	Integrity of PROTECTIVE BONDING		—
	a) PROTECTIVE BONDING consists of directly connected structural parts or discrete conductors or both; and withstands thermal and dynamic stresses		P
	b) Soldered connections:		—
	Independently secured against loosening		N/A
	Not used for other purposes		N/A
	c) Screw connections are secured		P
	d) PROTECTIVE BONDING not interrupted; or		N/A
	except as removable part that carries MAINS SUPPLY input connection to the whole equipment		N/A
	e) Any movable PROTECTIVE BONDING connection specifically designed, and meets 6.5.2.4		N/A
	f) No external metal braid of cables used (not regarded as PROTECTIVE BONDING)		N/A
	g) IF MAINS SUPPLY passes through:		—
	Means provided for passing protective conductor;		P
	Impedance meets 6.5.2.4		P
	h) Protective conductors bare or insulated, if insulated, green/yellow		P
	Exceptions:		—
	1) earthing braids;		N/A
	2) internal protective conductors etc.;		N/A
	Green/yellow not used for other purposes		P
	TERMINAL suitable for connection of a PROTECTIVE CONDUCTOR, and meets 6.5.2.3		N/A
6.5.2.3	PROTECTIVE CONDUCTOR TERMINAL		—
	a) Contact surfaces are metal		P
	b) Appliance inlet used		P
	c) For rewirable cords and PERMANENTLY CONNECTED EQUIPMENT, PROTECTIVE CONDUCTOR TERMINAL is close to MAINS supply TERMINALS		P
	d) If no MAINS supply is required, any PROTECTIVE CONDUCTOR TERMINAL:		—
	Is near terminals of circuit for which protective earthing is necessary		P
	External if other terminals external		P
	e) Equivalent current-carrying capacity to MAINS supply TERMINALS	(see Form A.7)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	f) If plug-in, makes first and breaks last		N/A
	g) If also used for other bonding purposes, PROTECTIVE CONDUCTOR:		—
	Applied first;		N/A
	Secured independently;		N/A
	Unlikely to be removed by servicing		N/A
	h) PROTECTIVE CONDUCTOR of measuring circuit:		—
	1) Current RATING equivalent to measuring circuit TERMINAL;		N/A
	2) PROTECTIVE BONDING: not interrupted by any switch or interrupting device		N/A
	i) FUNCTIONAL EARTH TERMINALS allow independent connection		N/A
	j) If a binding screw used for PROTECTIVE CONDUCTOR TERMINAL:		—
	Suitable size for bond wire		N/A
	Not smaller than M 4		N/A
	At least 3 turns of screw engaged		N/A
	Passes tightening torque test	(see Form A.8)	N/A
	k) Contact pressure not capable being reduced by deformation of materials		P
6.5.2.4	Impedance of PROTECTIVE BONDING of plug-connected equipment	(see Form A.9)	P
	Impedance between PROTECTIVE CONDUCTOR TERMINAL and each ACCESSIBLE part where PROTECTIVE BONDING is specified, is:		—
	– less than 0,1 Ohm; or		P
	– less than 0,2 Ohm if equipment is provided with non-detachable cord		N/A
6.5.2.5	Impedance of PROTECTIVE BONDING of PERMANENTLY CONNECTED EQUIPMENT	(see Form A.10)	N/A
6.5.2.6	Transformer PROTECTIVE BONDING screen	(see Form A.11)	N/A
	Transformer provided with screen for PROTECTIVE BONDING:		—
	screen bonding consists of directly connected structural parts or discrete conductors or both; and withstands thermal and dynamic stresses (see 6.5.2.2 a)		N/A
	screen bonding with soldered connection (see 6.5.2.2 b) is:		—
	– Independently secured against loosening		N/A
	– Not used for other purposes		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.5.3	SUPPLEMENTARY and REINFORCED INSULATION		P
	Meet CLEARANCE, CREEPAGE DISTANCE and solid insulation requirements of 6.7	Reinforced Insulation	P
6.5.4	PROTECTIVE IMPEDANCE	(see Form A.12)	N/A
	Limits current or voltage to level of 6.3.1 in NORMAL and to level of 6.3.2 in SINGLE FAULT CONDITION		N/A
	CLEARANCE, CREEPAGE DISTANCE between terminations of the impedance meet requirements of DOUBLE or REINFORCED INSULATION of 6.7	(see Form A.15)	N/A
	The PROTECTIVE IMPEDANCE consists of one or more of the following:	(see TABLE 1.A and Form A.12)	—
	a) appropriate single component suitable for safety and reliability for protection, it is:		—
	1) RATED twice the maximum WORKING VOLTAGE		N/A
	2) resistor RATED for twice the power dissipation for maximum WORKING VOLTAGE		N/A
	b) combination of components		N/A
	Single electronic device not used as PROTECTIVE IMPEDANCE		N/A
6.5.5	Automatic disconnection of the supply		N/A
	a) RATED to disconnect the load within time specified in Figure 2		N/A
	b) RATED for the maximum load conditions of the equipment		N/A
6.5.6	Current- or voltage-limiting devices	(see Form A.13)	N/A
	Device complies with all of:		—
	a) RATED to limit the current or voltage to the level of 6.3.2	(see Form A.6)	N/A
	b) RATED for the maximum WORKING VOLTAGE; and		N/A
	RATED for the maximum operational current if applicable		N/A
	c) CLEARANCE, CREEPAGE DISTANCE between terminations of the impedance meet requirements of SUPPLEMENTARY INSULATION of 6.7	(see Forms A.14 and A.15)	N/A
6.6	**Connections to external circuits**		P
6.6.1	General		P
	Connections do not cause ACCESSIBLE parts of the following to become HAZARDOUS LIVE in NORMAL CONDITION or SINGLE FAULT CONDITION:		—
	– the external circuits		P

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Clause	Requirement + Test	Result - Remark	Verdict
	– the equipment		P
	Protection achieved by separation of circuits; or		P
	short circuit of separation does not cause a HAZARD		N/A
	Instructions or markings for each terminal include:	Provided in user manual.	—
	a) RATED conditions for TERMINAL		P
	b) Required RATING of external circuit insulation		P
6.6.2	TERMINALS for external circuits		N/A
	TERMINALS which receive a charge from an internal capacitor are not HAZARDOUS LIVE after 10 s of interrupting supply connection	(see Form A.5)	N/A
6.6.3	Circuits with terminals which are HAZARDOUS LIVE		P
	These circuits are:		—
	Not connected to ACCESSIBLE conductive parts; or		P
	Connected to ACCESSIBLE conductive parts, but are not MAINS CIRCUITS and have one TERMINAL contact at earth potential		N/A
	No ACCESSIBLE conductive parts are HAZARDOUS LIVE		N/A
6.6.4	Terminals for stranded conductors		N/A
	No RISK of accidental contact because:		—
	– Located or shielded		N/A
	– Self-evident or marked whether or not connected to ACCESSIBLE conductive parts		N/A
	Complies as applicable:		—
	a) Manufacturer's specified maximum length of removed insulation, or		N/A
	b) 8 mm length of insulation removed		N/A
6.7	**Insulation requirements**	(see Form A.14)	P
6.7.1	The nature of insulation		P
6.7.1.1	General		P
	Insulation between ACCESSIBLE parts or between separate circuits consist of CLEARANCES, CREEPAGE DISTANCES and solid insulation if provided as protection against a HAZARD		P
6.7.1.2	CLEARANCES		P
	Required CLEARANCES reflecting factors of 6.7.1.1	(see Forms A.14 and A.15)	P
	Equipment rated for operating altitude greater than 2000 m correction factor of Table 3 of 61010-1 applied	2000m	N/A
6.7.1.3	CREEPAGE DISTANCES		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Required CREEPAGE DISTANCES reflecting factors of 6.7.1.1 a) to d)	(see Forms A.14 and A.15)	P
	CTI material group reflected by requirements	IIIb	P
	CTI test performed		N/A
6.7.1.4	Solid insulation		P
	Required solid insulation reflecting factors of 6.7.1.1 a) to d)	(see Forms A.14 and A.15)	P
6.7.1.5	Requirements for insulation according to type of circuit	(see Forms A.14 and A.15)	P
	a) 6.7.2 MAINS circuits of OVERVOLTAGE CATEGORY II up to nominal supply voltage of 300 V		P
	b) 6.7.3 secondary circuits separated from circuits defined in a) by transformer		P
	c) K.1 MAINS circuits of OVERVOLTAGE CATEGORY III and IV or OVERVOLTAGE CATEGORY II over 300 V		N/A
	d) K.2 secondary circuits separated from circuits defined in c) by transformer		N/A
	e) K.3 circuits having one or more of:		—
	1) maximum TRANSIENT OVERVOLTAGE is limited to known level below the level of MAINS CIRCUIT		N/A
	2) maximum TRANSIENT OVERVOLTAGE above the level of MAINS CIRCUIT		N/A
	3) WORKING VOLTAGE is the sum of more than one circuit or a mixed voltage		N/A
	4) WORKING VOLTAGE includes recurring peak voltage, may include non-sinusoidal or non-periodic waveform		P
	5) WORKING VOLTAGE with a frequency above 30 kHz		N/A
6.7.2	Insulation for MAINS CIRCUITS of OVERVOLTAGE CATEGORY II with a nominal supply voltage up to 300 V		P
6.7.2.1	CLEARANCES and CREEPAGE DISTANCES	(see Forms A.14 and A.15)	—
	Values for MAINS CIRCUITS of Table 4 are met		P
	Coatings to achieve reduction to POLLUTION DEGREE 1 comply with requirements of Annex H		N/A
6.7.2.2	Solid insulation		P
6.7.2.2.1	General		P
	Withstands electrical and mechanical stresses in normal use and all RATED environmental conditions of 1.4		P
	Equipment passed voltage tests of 6.8.3 with values of Table 5	(see Form A.18)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Complies as applicable:		—
	a) ENCLOSURE or PROTECTIVE BARRIER of Clause 8		P
	b) moulded and potted parts requirements of 6.7.2.2.2		N/A
	c) inner layers of printed wiring boards requirements of 6.7.2.2.3		N/A
	d) thin-film insulation requirements of 6.7.2.2.4		N/A
6.7.2.2.2	Moulded and potted parts		—
	Conductors between same two layers are separated by at least 0,4 mm after moulding is completed		N/A
6.7.2.2.3	Inner insulating layers of printed wiring boards		—
	Separated by at least 0,4 mm between same two layers		N/A
	REINFORCED INSULATION has adequate electric strength; one of following methods used:		—
	a) thickness of insulation is at least 0,4 mm		N/A
	b) insulation is assembled of minimum two separate layers, each RATED for test voltage of Table 5 for BASIC INSULATION		N/A
	c) insulation is assembled of minimum two separate layers, where the combination is rated for test voltage of Table 5 for REINFORCED INSULATION		N/A
6.7.2.2.4	Thin-film insulation		—
	Conductors between same two layers are separated by applicable CLEARANCES and CREEPAGE DISTANCE of 6.7.2.1		N/A
	REINFORCED INSULATION have adequate electric strength; one of the following methods used:		—
	a) thickness through the insulation at least 0,4 mm		N/A
	b) insulation is assembled of min. two separate layers, each RATED for test voltage of Table 5 for BASIC INSULATION	(see Form A.18)	N/A
	c) insulation is assembled of min. three separate layers, where the combination of two layers passed voltage tests of 6.8.3 with values of Table 5 for REINFORCED INSULATION	(see Form A.18)	N/A
6.7.3	Insulation for secondary circuits derived from MAINS CIRCUITS of OVERVOLTAGE CATEGORY II up to 300 V		P
6.7.3.1	General		N/A
	Secondary circuits where separation from MAINS CIRCUITS is achieved by a transformer providing:		—
	– REINFORCED INSULATION		P

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Clause	Requirement + Test	Result - Remark	Verdict
	– DOUBLE INSULATION		N/A
	– screen connected to the PROTECTIVE CONDUCTOR TERMINAL		N/A
6.7.3.2	CLEARANCES	(see Forms A.14 and A.15)	N/A
	a) meet the values of Table 6 for BASIC INSULATION and SUPPLEMENTARY INSULATION; or		N/A
	twice the values of Table 6 for REINFORCED INSULATION; or		N/A
	b) pass the voltage tests of 6.8 with values of Table 6;	(see Form A.18)	N/A
	with following adjustments:		—
	1) values for reinforced insulation are 1,6 times the values for basic insulation		N/A
	2) if operating altitude is greater than 2000 m .....values of CLEARANCES multiplied with factor of Table 3		N/A
	3) minimum CLEARANCE is 0,2 mm for POLLUTION DEGREE 2 and 0,8 mm for POLLUTION DEGREE 3		N/A
6.7.3.3	CREEPAGE DISTANCES	(see Forms A.14 and A.15)	N/A
	Based on WORKING VOLTAGE meets the values of Table 7 for BASIC and SUPPLEMENTARY INSULATION		N/A
	Values for REINFORCED INSULATION are twice the values of BASIC INSULATION		N/A
	Coatings to achieve reduction to POLLUTION DEGREE 1 comply with requirements of Annex H		N/A
6.7.3.4	Solid insulation		N/A
6.7.3.4.1	General		N/A
	Withstands electrical and mechanical stresses in normal use and all RATED environmental conditions of 1.4		—
	a) Equipment passed voltage test of 6.8.3.1 for 5 s with VALUES of Table 6 for BASIC and SUPPLEMENTARY INSULATION	(see Form A.18)	N/A
	values for REINFORCED INSULATION are 1,6 times the values of BASIC INSULATION		N/A
	b) if WORKING VOLTAGE exceeds 300 V, equipment passed voltage test of 6.8.3.1 for 1 min with a test voltage of 1,5 times working voltage for BASIC or SUPPLEMENTARY INSULATION	(see Form A.18)	N/A
	value for REINFORCED INSULATION are twice the WORKING VOLTAGE		N/A
	Complies as applicable:		—
	1) ENCLOSURE or PROTECTIVE BARRIER of Clause 8		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	2) moulded and potted parts requirements of 6.7.3.4.2		N/A
	3) inner layers of printed wiring boards requirements of 6.7.3.4.3		N/A
	4) thin-film insulation requirements of 6.7.3.4.4		N/A
6.7.3.4.2	Moulded and potted parts		—
	Conductors between same two layers are separated by applicable distances of Table 8		N/A
6.7.3.4.3	Inner insulation layers of printed wiring boards		—
	Separated by at least the applicable distances of Table 8 between same two layers		N/A
	REINFORCED INSULATION have adequate electric strength; one of following methods used:		—
	a) thickness at least applicable distance of Table 8		N/A
	b) insulation is assembled of minimum two separate layers, each RATED for test voltage of Table 6 for BASIC INSULATION	(see Form A.18)	N/A
	c) insulation is assembled of min. two separate layers, where the combination is RATED for 1,6 times the test voltage of Table 6	(see Form A.18)	N/A
6.7.3.4.4	Thin-film insulation		—
	Conductors between same two layers are separated by applicable CLEARANCES and CREEPAGE DISTANCE of 6.7.3.2 and 6.7.3.3		N/A
	REINFORCED INSULATION have adequate electric strength; one of following methods used:		—
	a) thickness at least applicable distance of Table 8		N/A
	b) insulation is assembled of min. two separate layers, each RATED for test voltage of Table 6 for BASIC INSULATION	(see Form A.18)	N/A
	c) insulation is assembled of min. three separate layers, where the combination of two layers passed voltage tests with 1,6 time values of Table 6:	(see Form A.18)	—
	a.c. test of 6.8.3.1; or		N/A
	d.c. test of 6.8.3.2 for circuits stressed only by d.c. voltages		N/A
6.8	**Procedure for voltage tests**	(see Forms A.14 and A.18)	P
6.9	**Constructional requirements for protection against electric shock**		P
6.9.1	General		P
	If a failure could cause a HAZARD:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	a) security of wiring connections		P
	b) screws securing removable covers		N/A
	c) accidental loosening		P
	d) CLEARANCES and CREEPAGE DISTANCES not reduced below the values of basic insulation by loosening of parts or wires		P
6.9.2	Insulating materials		P
	Material not to be used for safety relevant insulation:		—
	a) easily damaged materials not used		P
	b) non-impregnated hygroscopic materials not used		P
6.9.3	Colour coding		P
	Green-and-yellow insulation shall not be used except:		—
	a) protective earth conductors;		P
	b) PROTECTIVE BONDING conductors;		N/A
	c) potential equalization conductors;		N/A
	d) functional earth conductors		N/A
6.10	**Connection to MAINS supply source and connections between parts of equipment**		P
6.10.1	MAINS supply cords		P
	RATED for maximum equipment current (see 5.1.3 c)		P
	Cable complies with IEC 60227 or IEC 60245		P
	Heat-resistant if likely to contact hot parts		N/A
	Temperature RATING (cord and inlet) ..... :		—
	Green/yellow used only for connection to PROTECTIVE CONDUCTOR TERMINALS		P
	Detachable cords with IEC 60320 MAINS connectors:		—
	Conform to IEC 60799; or		N/A
	Have the current RATING of the MAINS connector		P
6.10.2	Fitting of non-detachable MAINS supply cords		N/A
6.10.2.1	Cord entry		—
	a) inlet or bushing with a smoothly rounded opening; or		N/A
	b) insulated cord guard protruding >5 D (diameter)		N/A
6.10.2.2	Cord anchorage		—
	Protective earth conductor is the last to take the strain		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	a) cord is not clamped by direct pressure from a screw		N/A
	b) knots are not used		N/A
	c) cannot push the cord into the equipment to cause a HAZARD		N/A
	d) no failure of cord insulation in anchorage with metal parts		N/A
	e) not to be loosened without a tool		N/A
	f) cord replacement does not cause a HAZARD and method of strain relief is clear		N/A
	Push-pull and or torque test	(see Form A.19)	N/A
6.10.3	Plugs and connectors		P
	MAINS supply plugs, connectors etc., conform with relevant specifications		P
	If equipment supplied at voltages below 6.3.2.a) or from a sole source:		—
	Plugs of supply cords do not fit MAINS sockets above rated SUPPLY voltage		N/A
	MAINS type plugs used only for connection to MAINS supply		P
	Plug pins which receive a charge from an internal capacitor	(see Form A.5)	N/A
	Accessory MAINS socket outlets:		—
	a) marking if accepts a standard MAINS supply plug (see 5.1.3e)		P
	b) input has a protective earth conductor if outlet has EARTH TERMINAL CONTACT		P
6.11	**Disconnection from supply source**		P
6.11.1	Disconnects all current-carrying conductors		P
6.11.2	Exceptions		N/A
6.11.3	Requirements according to type of equipment		P
6.11.3.1	PERMANENTLY CONNECTED EQUIPMENT and multi-phase equipment		N/A
	Employs switch or circuit-breaker		N/A
	If switch or circuit-breaker is not part of the equipment, documentation requires:		—
	a) switch or circuit-breaker to be included in building installation		N/A
	b) suitable location easily reached		N/A
	c) marking as disconnecting for the equipment		N/A
6.11.3.2	Single-phase cord-connected equipment		P
	Equipment is provided with one of the following:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	a) switch or circuit-breaker		P
	b) appliance coupler (disconnectable without tool)		P
	c) separable plug (without locking device)		N/A
6.11.4	Disconnecting devices		P
6.11.4.1	General		P
	Disconnecting device part of equipment		P
	Electrically close to the SUPPLY		P
	Power-consuming components not electrically located between the supply source and the disconnecting device		N/A
	Except electromagnetic interference suppression circuits permitted to be located on the supply side of the disconnecting device		N/A
6.11.4.2	Switches and circuit-breakers		P
	When used as disconnection device:		—
	Circuit breaker meets the relevant requirements IEC 60947-2 and is suitable for the application		N/A
	Switch meets the relevant requirements IEC 60947-3 and is suitable for the application		—
	Marked to indicate function ..... :	I/O	—
	Not incorporated in MAINS cord		P
	Does not interrupt PROTECTIVE EARTH CONDUCTOR		P
6.11.4.3	Appliance couplers and plugs		P
	Where an appliance coupler or separable plug is used as the disconnecting device (see 6.11.3.2):		—
	Readily identifiable and easily reached by the operator		P
	Single-phase portable equipment cord length not more than 3 m		N/A
	PROTECTIVE EARTH CONDUCTOR connected first and disconnected last		P
7	**PROTECTION AGAINST MECHANICAL HAZARDS**		P
7.1	**General**		P
	Equipment does not cause a mechanical HAZARD in NORMAL nor in SINGLE FAULT CONDITION		P
	Conformity is checked by 7.2 to 7.7		P
7.2	**Sharp edges**		P
	Easily-touched parts are smooth and rounded		P
	Do not cause injury during NORMAL USE and		P
	Do not cause injury during SINGLE FAULT CONDITION		P

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Clause	Requirement + Test	Result - Remark	Verdict
7.3	**Moving parts**		N/A
7.3.1	General		N/A
	HAZARDS from moving parts limited to a tolerable level with the conditions specified in 7.3.2 and 7.3.5		N/A
	RISK assessment in accordance with 7.3.3 carried out		N/A
7.3.2	Exceptions		N/A
	Access to HAZARDOUS moving parts permitted under following circumstances:		—
	a) obviously intended to operate on parts or materials external of the equipment		N/A
	inadvertent touching of moving parts minimized by equipment design (e .g. guards or handles)		N/A
	b) If OPERATOR access is unavoidable outside NORMAL USE following precautions have been taken:		—
	1) access requires TOOL		N/A
	2) statement about training in the instructions		N/A
	3) warning markings on covers prohibiting access by untrained OPERATORS		N/A
	or symbol 14 with full details in documentation		N/A
7.3.3	RISK assessment for mechanical HAZARDS to body parts		N/A
	RISK is reduced to a tolerable level by protective measures as specified in Table 12		N/A
	Minimum protective measures:		—
	A. Low level measures		N/A
	B. Moderate measures		N/A
	C. Stringent measures		N/A
7.3.4	Limitation of force and pressure	(see Form A.20)	N/A
	Following levels are met in NORMAL and SINGLE FAULT CONDITION:		—
	Continuous contact pressure below 50 N / cm² with force below 150 N		N/A
	Temporary force below 250 N for an area at least of 3 cm² for a maximum duration of 0,75 s		N/A
7.3.5	Gap limitations between moving parts	(see Form A.20)	N/A
7.3.5.1	Access normally allowed		—
	If levels of 7.3.4 exceeded and a body part may be inserted minimum gap as specified in Table 13 assured in NORMAL and in SINGLE FAULT CONDITION		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.3.5.2	Access normally prevented		—
	Maximum gap as specified in Table 14 assured in NORMAL and in SINGLE FAULT CONDITION		N/A
7.4	**Stability**		N/A
	Equipment not secured to building structure is physical stable		N/A
	Stability maintained after opening of drawers etc. by automatic means, or		N/A
	warning marking requires the application of means		N/A
	Compliance checked by following tests as applicable:	(see Form A.20A)	—
	a) 10° tilt test for other than handheld equipment		N/A
	b) multi-directional force test for equipment exceeds height of 1 m and mass of 25 kg	Stationary	N/A
	c) downward force test for floor-standing equipment		N/A
	d) overload test with 4 times maximum load for castor or support foot that supports greatest load, or		N/A
	e) castor or support foot that supports greatest load removed from equipment		N/A
7.5	**Provisions for lifting and carrying**		N/A
7.5.1	General		N/A
	Equipment more than 18 kg..... :		N/A
	Has means for lifting or carrying; or		N/A
	Directions are given in documentation		N/A
7.5.2	Handles and grips		N/A
	Handles or grips withstand four times weight		N/A
7.5.3	Lifting devices and supporting parts		N/A
	RATED for maximum load; or		N/A
	Tested with four times maximum static load		N/A
7.6	**Wall mounting**		N/A
	Mounting brackets withstand four times weight	(see Form A.20B)	N/A
	One fastner removed and test repeated with two times weight	(see Form A.20B)	N/A
7.7	**Expelled parts**		P
	Equipment contains or limits the energy		N/A
	Protection not removable without the aid of a tool		P

8	**RESISTANCE TO MECHANICAL STRESSES**		P
8.1	**General**		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Equipment does not cause a HAZARD when subjected to mechanical stresses in NORMAL USE		P
	Normal protection level is 5 J		P
	Levels below 5 J but not less than 1 J are acceptable if all of the following criteria are met:		—
	a) Lower level justified by RISK assessment of manufacturer		N/A
	b) Equipment installed in its intended application is not easily touched		N/A
	c) Only occasional access during NORMAL USE		N/A
	d) IK code in accordance to IEC 62262 marked or symbol 14 used with full information in the documentation		N/A
	for non-metallic ENCLOSURES rated below 2 °C ambient temperature value chosen for minimum RATED temperature		N/A
	impact energies between IK values, the IK code marked for nearest lower value		N/A
	Conformity is checked by performing following tests:	(see Form A.16)	—
	1) Static test of 8.2.1		P
	2) Impact test of 8.2.2 with 5 J except for HAND-HELD EQUIPMENT		P
	if specified impact energy is not 5 J alternate method of IEC 62262 used		N/A
	3) Drop test of 8.3.1 or 8.3.2 except for FIXED EQUIPMENT and equipment with mass over 100 kg		N/A
	Equipment RATED with an impact rating of IK 08 that obviously meets the criteria		N/A
	After the tests inspection with following results:		—
	– HAZARDOUS LIVE parts above the limits of 6.3.2 not ACCESSIBLE		P
	– insulation pass the voltage tests of 6.8	(see Form A.30)	P
	i) No leaks of corrosive and harmful substances		P
	ii) ENCLOSURE shows no cracks resulting in a HAZARD		P
	iii) CLEARANCES not less than their permitted values		P
	iv) Insulation of internal wiring remains undamaged		P
	v) PROTECTIVE BARRIERS not damaged or loosened		N/A
	vi) No moving parts exposed, except permitted by 7.3		P

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Clause	Requirement + Test	Result - Remark	Verdict
	vii) No damage which could cause spread of fire		P
8.2	**ENCLOSURE rigidity test**		P
8.2.1	Static test	(see Form A.21A)	P
	– 30 N with 12 mm rod applied to each part of ENCLOSURE		P
	– in case of doubt test conducted at maximum RATED ambient temperature		P
8.2.2	Impact test		P
	Impact applied to any part of ENCLOSURE causing a HAZARD if damaged		P
	Impact energy level and corresponding IK code.... :	IK08	—
	Non-metallic ENCLOSURES cooled to minimum RATED ambient temperature if below 2 °C		N/A
8.3	**Drop test**	(see Form A.21B)	N/A
8.3.1	Other than HAND-HELD and DIRECT-PLUG-IN EQUIPMENT		N/A
	Tests conducted with a drop height or angle of ..... :		—
8.3.2	HAND-HELD and DIRECT-PLUG-IN EQUIPMENT		N/A
	Non-metallic ENCLOSURES cooled to minimum RATED ambient temperature if below 2 °C		N/A
	Drop test conducted with an height of 1 m		N/A

9	**PROTECTION AGAINST THE SPREAD OF FIRE**		P
9.1	**General**		P
	No spread of fire in NORMAL and SINGLE FAULT CONDITION		P
	MAINS supplied equipment meets requirements of 9.6 additionally		P
	Conformity is checked by minimum one or a combination of the following (see Figure 11):	(see Form A.22)	—
	a) SINGLE FAULT test of 4.4; or		N/A
	b) Application of 9.2 (eliminating or reducing the sources of ignition); or		N/A
	c) Application of 9.3 (containment of fire within the equipment)		P
9.2	**Eliminating or reducing the sources of ignition within the equipment**		N/A
	a) 1) Limited-energy circuit (see 9.4); or		N/A
	2) BASIC INSULATION provided for parts of different potential; or	(see Forms A.14 and A.18)	N/A
	Bridging the insulation does not cause ignition	(see Form A.1)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	b) Surface temperature of liquids and parts (see 9.5)		N/A
	c) No ignition in circuits designed to produce heat	(see Form A.1)	N/A
9.3	**Containment of the fire within the equipment, should it occur**		P
9.3.1	General		P
	Spread of fire outside equipment reduced to a tolerable level if:		—
	a) Energizing of the equipment is controlled by an OPERATOR held switch		N/A
	b) ENCLOSURE is conform with constructional requirements of 9.3.2; and		P
	Requirements of 9.5 are met		N/A
9.3.2	Constructional requirements		P
	a) Connectors and insulating material have flammability classification V-2 or better	(see TABLE 1.A or Form A.23)	P
	b) Insulated wires and cables are flame retardant (VW-1 or equivalent)	(see TABLE 1.A or Form A.23)	P
	c) ENCLOSURE meets following requirements:	(see Form A.22)	—
	1) Bottom and sides in arc of 5 ° (see Figure 13) to non-limited circuits (9.4) meets:		—
	i) no openings; or		N/A
	ii) perforated as specified in Table 16; or		N/A
	iii) metal screen with a mesh; or		N/A
	iv) baffles as specified in Figure 12	Bottom openings near lock on Walk-through Metal Detector Case: 2mm x 20mm.	P
	2) Material of ENCLOSURE and any baffle or flame barrier is made of:		—
	Metal (except magnesium); or		N/A
	Non-metallic materials have flammability classification V-1 or better	(see TABLE 1.A or Form A.22)	P
	3) ENCLOSURE and any baffle or flame barrier have adequate rigidity		P
9.4	**Limited-energy circuit**	(see Form A.24)	N/A
	a) Potential not more than 30 r.m.s. and 42,4 V peak, or 60 V d.c.		N/A
	b) Current limited by one of following means:		—
	1) Inherently or by impedance (see Table 17); or		N/A
	2) Overcurrent protective device (see Table 18); or		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	3) A regulating network limits also in SINGLE FAULT CONDITION (see Table 17)		N/A
	c) Is separated by at least BASIC INSULATION		N/A
	Fuse or a nonadjustable electromechanical device is used		N/A
9.5	**Requirements for equipment containing or using flammable liquids**		N/A
	Flammable liquids contained in or specified for use with equipment do not cause spread of fire	(see Form A.25)	N/A
	RISK is reduced to a tolerable level:		—
	a) The temperature of surface or parts in contact with flammable liquids is 25 °C below fire point		N/A
	b) The quantity of liquid is limited		N/A
	c) Flames are contained within the equipment		N/A
	Detailed instructions for RISK-reduction provided		N/A
9.6	**Overcurrent protection**		P
9.6.1	General		P
	MAINS supplied equipment protected		P
	BASIC INSULATION between MAINS parts of opposite polarity provided	(see Forms A.14 and A.15)	P
	Overcurrent protection devices not fitted in the protective conductor		P
	Fuses or single-pole circuit-breakers not fitted in neutral (multi-phase equipment)		P
9.6.2	PERMANENTLY CONNECTED EQUIPMENT		N/A
	Overcurrent protection device:		—
	Fitted within the equipment; or		N/A
	Specified in manufacturer's instructions		N/A
9.6.3	Other equipment		P
	Protection within the equipment		P

10	**EQUIPMENT TEMPERATURE LIMITS AND RESISTANCE TO HEAT**		P
10.1	**Surface temperature limits for protection against burns**		P
	Easily touched surfaces within the limits in NORMAL and in SINGLE FAULT CONDITION:	(see Form A.26A)	—
	– at an specified ambient temperature of 40 °C		N/A
	– for equipment rated above 40 °C ambient temperature limits not exceeded raised by the difference to 40 °C		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Heated surfaces necessary for functional reasons exceeding specified values:		—
	– Are recognizable as such by appearance or function; or		N/A
	– Are marked with symbol 13		N/A
	– Guards are not removable without tool		N/A
10.2	**Temperatures of windings**		N/A
	Limits not exceeded in:	(see Form A.26A)	—
	NORMAL CONDITION		N/A
	SINGLE FAULT CONDITION		N/A
10.3	**Other temperature measurements**		P
	Following measurements conducted if applicable:	(see Form A.26A)	—
	a) Value of 60 °C of field-wiring terminal box not exceeded		N/A
	b) Surface of flammable liquids and parts in contact with this liquids		N/A
	c) Surface of non-metallic ENCLOSURES		P
	d) Parts made of insulating material supporting parts connected to MAINS supply	AC inlet	P
	e) Terminals carrying a current more than 0,5 A	Approved components used.	P
10.4	**Conduct of temperature tests**		P
10.4.1	General		P
	Tests conducted under reference test conditions and manufacturer's instructions	(see Form A.26A)	P
	Tests alternatively conducted at the least favourable ambient temperature within the RATED ambient temperature ..... :		—
10.4.2	Temperature measurement of heating equipment		N/A
	Tests conducted in test corner	(see Form A.26A)	N/A
10.4.3	Equipment intended for installation in a cabinet or wall		N/A
	Equipment built in as specified in installation instructions	(see Form A.26A)	N/A
10.5	**Resistance to heat**		P
10.5.1	Integrity of CLEARANCE and CREEPAGE DISTANCES	(see Form A.16)	P
10.5.2	Non-metallic ENCLOSURES	(see Form A.27)	P
	Within 10 min after treatment:		—
	Equipment subjected to suitable stresses of 8.2 and 8.3 complying with criteria of 8.1		P
10.5.3	Insulating material		N/A
	a) Parts supporting parts connected to MAINS supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	b) TERMINALS carrying a current more than 0,5 A		N/A
	Examination of material data; or		N/A
	in case of doubt:		N/A
	1) Ball pressure test; or	(see Form A.28)	N/A
	2) Vicat softening test of ISO 306	(see Form A.29)	N/A
11	**PROTECTION AGAINST HAZARDS FROM FLUIDS AND SOLID FOREIGN OBJECTS**		P
11.1	**General**		P
	Protection to OPERATORS and surrounding area provided by EQUIPMENT		P
	All fluids specified by manufacturer considered		P
11.2	**Cleaning**	(see Form A.30)	P
11.3	**Spillage**	(see Form A.30)	N/A
11.4	**Overflow**	(see Form A.30)	N/A
11.5	**Battery electrolyte**		N/A
	Battery electrolyte leakage presents no HAZARD		N/A
11.6	**Equipment RATED with a degree of ingress protection (IP code)**	(see Form A.30)	N/A
11.6.1	General		N/A
	Equipment marked with IP code.....:		—
	Conditions specified in the documentation		N/A
11.6.2	Conditions for testing		N/A
	Equipment in clean and new condition, all parts in place and mounted as specified by manufacturer		N/A
	Complete equipment tested, or		N/A
	representative parts tested		N/A
	HAND-HELD EQUIPMENT and PORTABLE EQUIPMENT placed in least favourable position of NORMAL use		N/A
	Other equipment positioned or installed as specified		N/A
	TERMINALS provided with protective cap or cover, are installed as specified by manufacturer		N/A
	The equipment is operating (energized) during the treatment except:		—
	a) If manufacturer specifies degrees of protection for non-operating (de-energized) equipment, or		N/A
	b) Equipment is operating or non-operating during the treatment with does not affect the test results		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
11.6.3	Protection against solid foreign objects (including dust)		N/A
	Applicable test of IEC 60529 for protection against solid foreign objects conducted		N/A
	Additionally inspection of equipment resulted:		—
	a) No deposit on insulation parts that could lead to a HAZARD		N/A
	b) No created accumulations that have the potential to cause spread of fire		N/A
11.6.4	Protection against water		N/A
	Applicable test of IEC 60529 for protection against water conducted		N/A
	If any water has entered, safety is not impaired, inspection of equipment resulted:		—
	a) No deposit on insulation parts that could lead to a HAZARD		N/A
	b) Water has not reached hazardous live parts or windings which are not designed to operate when wet		N/A
	c) No accumulations near the end of cable nor enter the cable where it could cause a HAZARD		N/A
	d) No accumulations where it could lead to a HAZARD taking in consideration movement of the equipment		N/A
11.7	**Fluid pressure and leakage**		N/A
11.7.1	Maximum pressure .....:	(see Form A.31)	—
	Maximum pressure of any part does not exceed P_{RATED}		N/A
11.7.2	Leakage and rupture at high pressure		N/A
	Fluid-containing parts checked by inspection or if a HAZARD could arise subjected to hydraulic test, if:	(see Form A.31)	—
	a) product of pressure and volume > 200 kPa·l; and		N/A
	b) pressure > 50 kPa		N/A
	Safety evidence established by calculation in acc. to national authorities (e.g. Pressure Equipment Directive 2014/68/EU)		N/A
	Parts of refrigerating systems meets pressure-related requirements of EN 378-2 or IEC 60335-2-89 as applicable		N/A
11.7.3	Leakage from low-pressure parts	(see Form A.32)	N/A
11.7.4	Overpressure safety device		N/A
	Does not operate in NORMAL USE		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	a) Connected as close as possible to parts intended to be protected		N/A
	b) Easy access for inspection, maintenance and repair		N/A
	c) Adjustment only with TOOL		N/A
	d) No discharge towards person		N/A
	e) No HAZARD from deposit of discharged material		N/A
	f) Adequate discharge capacity		N/A
	No shut-off valve between overpressure safety device and protected parts		N/A
12	**PROTECTION AGAINST RADIATION, INCLUDING LASER SOURCES, AND AGAINST SONIC AND ULTRASONIC PRESSURE**		P
12.1	**General**		P
	Equipment provides protection		N/A
12.2	**Equipment producing ionizing radiation**		N/A
12.2.1	Ionizing radiation	(see Form A.33)	N/A
12.2.1.1	General		N/A
	Equipment meets the following requirements:		—
	a) if intended to emit radiation meets requirements of 12.2.1.2; or		N/A
	tested, classified and marked in accordance to IEC 62598		N/A
	b) if only emits stray radiation meets requirements of 12.2.1.3		N/A
12.2.1.2	Equipment intended to emit radiation		—
	Effective dose rate of radiation measured..... :		—
	If dose rate exceeds 5 µSv/h marked with the following:		—
	a) symbol 17 (ISO 361)		N/A
	b) abbreviations of the radionuclides.....:	Not appliable.	—
	c) with maximum dose at 1 m; or .....:		—
	with dose rate value between 1 µSv/h and 5 µSv/h in m..... :		—
12.2.1.3	Equipment not intended to emit radiation	(see Form A.34)	—
	Limit for unintended stray radiation of 1 µSv/h at any easily reached point kept ..... :		N/A
12.2.2	Accelerated electrons		N/A
	Compartments opened only by the use of a TOOL		N/A
12.3	**Optical radiation**		P

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Clause	Requirement + Test	Result - Remark	Verdict
	No unintentional HAZARDOUS escape of optical radiation as ultraviolet, visible or infrared radiation, including light emitting diodes:		—
	– Checked by inspection; and	Indicating LED	P
	– Radiation sources assessed in acc. to the requirements of IEC 62471, except for sources considered to be safe (Table 22) or conditionally safe (Table 23).		N/A
	– Lamp and lamp systems assessed to Risk Groups 1, 2, or 3 of IEC 62471 are labelled in acc. to IEC 62471-2		N/A
	– If labelling impractical, lamp or lamp systems marked with symbol 14		N/A
	– Protective measures, restrictions on use, and operating instructions that may be necessary are provided, including the applicable conditions of use of Table 23.		N/A
12.4	**Microwave radiation**		N/A
	Power density does not exceed 10 W/m^2.....:		N/A
12.5	**Sonic and ultrasonic pressure**		N/A
12.5.1	Sound level	(see Form A.35)	N/A
	No HAZARDOUS sound emission		N/A
	Maximum sound pressure level measured and calculated for maximum sound power level as specified in ISO 3746 or ISO 9614-1		N/A
	Instruction describes measures for protection		N/A
12.5.2	Ultrasonic pressure	(see Form A.36)	N/A
	Equipment not intended to emit ultrasound does not exceed limit of 110 dB between 20 kHz and 100 kHz		N/A
	Equipment intended to emit ultrasound:		N/A
	Outside useful beam does not exceed limit of 110 dB between 20 kHz and 100 kHz		N/A
	If inside useful beam above values exceeded:		—
	Marked with Symbol 14 of Table 1		N/A
	and following information in the documentation:		—
	a) dimensions of useful beam		N/A
	b) area where ultrasonic pressure exceed 110 dB		N/A
	c) maximum sound pressure inside beam area		N/A
12.6	**Laser sources**		N/A
	Equipment meets requirements of IEC 60825-1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
13	**PROTECTION AGAINST LIBERATED GASES AND SUBSTANCES, EXPLOSION AND IMPLOSION**		P
13.1	**Poisonous and injurious gases and substances**		N/A
	No hazardous substances liberated in NORMAL CONDITION and in SINGLE FAULT CONDITION		N/A
	If potentially-hazardous substances are liberated:		—
	Operator is not directly exposed to a quantity of the substance that could cause harm		N/A
	Requirements to discharge of hazardous substances during NORMAL operation in accordance to manufacturer's instructions not considered as liberation		N/A
	Attached data/test reports demonstrate conformity		N/A
13.2	**Explosion and implosion**		P
13.2.1	Components		N/A
	Components liable to explode:		—
	Pressure release device provided; or		N/A
	Apparatus incorporates operator protection (see also 7.7)		N/A
	Pressure release device:		—
	Discharge without danger		N/A
	Cannot be obstructed		N/A
13.2.2	Batteries and battery charging	(see Form A.37)	P
	If explosion or fire HAZARD could occur:		—
	Protection incorporated in the equipment; or		P
	Instructions specify batteries with built-in protection		N/A
	In case of wrong type of battery used:		—
	No HAZARD; or		N/A
	Warning by marking and within instructions		N/A
	Equipment with means to charge rechargeable batteries:		—
	Warning against the charging of non-rechargeable batteries; and		N/A
	Type of rechargeable battery indicated; or		N/A
	Symbol 14 used		N/A
	Battery compartment design		N/A
	Single component failure		P
	Polarity reversal test		N/A
13.2.3	Implosion of cathode ray tubes		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If maximum face dimensions > 160 mm..... :		—
	Intrinsically protected and correctly mounted; or		N/A
	ENCLOSURE provides protection:		N/A
	If non-intrinsically protected:		—
	Screen not removable without TOOL		N/A
	If glass screen, not in contact with surface of tube		N/A
14	**COMPONENTS AND SUBASSEMBLIES**		P
14.1	**General**		P
	Where safety is involved, components and subassemblies meet relevant requirements	(see TABLE 1.A)	P
14.2	**Motors**		P
14.2.1	Motor temperatures		P
	Does not present a HAZARD when stopped or prevented from starting; or	(see Forms A.1 and A.26B)	P
	Protected by over-temperature or thermal protection device conform with 14.3		N/A
14.2.2	Series excitation motors		N/A
	Connected direct to device, if overspeeding causes a HAZARD		N/A
14.3	**Overtemperature protection devices**		N/A
	Devices operating in a SINGLE FAULT CONDITION	(see Form A.38)	N/A
	a) Reliable function is ensured		N/A
	b) RATED to interrupt maximum current and voltage		N/A
	c) Does not operate in NORMAL USE		N/A
	If self-resetting device used to prevent a HAZARD, protected part requires intervention before restarting		N/A
14.4	**Fuse holders**		P
	No access to HAZARDOUS LIVE parts		P
14.5	**MAINS voltage selecting devices**		N/A
	Accidental change not possible		N/A
14.6	**MAINS transformers tested outside equipment**		N/A
14.7	**Printed wiring boards**		P
	Data shows conformity with V-1 of IEC 60695-11-10 or better; or		P
	Test shows conformity with V-1 of IEC 60695-11-10 or better	(see Form A.23)	N/A
	Not applicable for printed wiring boards with limited-energy circuits (9.4)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
14.8	**Circuits used to limit TRANSIENT OVERVOLTAGES**		N/A
	Test conducted between each pair of MAINS SUPPLY TERMINALS	(see Form A.41)	N/A
	No ignition or overheating of other materials :		—
	– no ignition		N/A
	– no heat to other parts above the self-ignition points		N/A
	Safely suppressing and properly functional after applied tests		N/A
15	**PROTECTION BY INTERLOCKS**		N/A
15.1	**General**		N/A
	Interlocks are designed to remove a HAZARD before OPERATOR exposed		N/A
15.2	**Prevention of reactivation**		N/A
15.3	**Reliability**		N/A
	Single fault unlikely to occur; or		N/A
	Cannot cause a HAZARD		N/A
16	**HAZARDS RESULTING FROM APPLICATION**		P
16.1	**REASONABLY FORESEEABLE MISUSE**		P
	No HAZARDS arising from settings not intended and not described in the instructions		P
	Other cases of REASONABLY FORESEEABLE MISUSE addressed by RISK assessment		N/A
16.2	**Ergonomic aspects**		N/A
	Factors giving rise to a HAZARD the RISK assessment is reflecting those aspects:		—
	a) limitation of body dimensions		N/A
	b) displays and indicators		N/A
	c) accessibility and conventions of controls		N/A
	d) arrangement of TERMINALS		N/A
17	**RISK ASSESSMENT**		N/A
	RISK assessment conducted, if HAZARD might arise and not covered by Clauses 6 to 16		N/A
	TOLERABLE RISK achieved by iterative documented process covering the following:		—
	a) RISK analysis		N/A
	Identifies HAZARDS and estimates RISK		N/A
	b) RISK evaluation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Plan to judge acceptability of resulting RISK level based on the estimated severity and likelihood of a RISK		N/A
	c) RISK reduction		N/A
	Initial RISK reduced by counter measures;		N/A
	Repeated RISK evaluation without new RISKS introduced		N/A
	RISKS remaining after RISK assessment addressed in instructions to RESPONSIBLE BODY:		—
	Information contained how to mitigate these RISKS		N/A
	Following principles in methods of RISK reduction applied by manufacturer in given order:		—
	1) RISKS eliminated or reduced as far as possible		N/A
	2) Protective measures taken for RISKS that cannot be eliminated		N/A
	3) User information about residual RISK due to any defect of the protective measures		N/A
	Indication of particular training is required		N/A
	Specification of the need for personal protective equipment		N/A
	Conformity checked by evaluation of the RISK assessment documentation		N/A
ANNEX F	**ROUTINE TESTS**		P
	Manufacturer ´s declaration		P
ANNEX H	**QUALIFICATION OF CONFORMAL COATINGS FOR PROTECTION AGAINST POLLUTION**		N/A
H.1	**General**		N/A
	Conformal coatings meet the requirements of Clause H.2 and H.3.		N/A
H.2	**Technical properties**		N/A
	Technical properties of conformal coatings are suitable for the intended application. In particular:		—
	a) Manufacturer indicate that it is a coating for PWBs;		N/A
	b) RATED operating temperature include the temperature range of the indicated application;		N/A
	c) CTI, insulation resistance and dielectric strength are suitable for the intended application;		N/A
	d) Coating have adequate UV resistance, if it is exposed to sunlight;		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	e) Flammability RATING of the coating is at least the required flammability RATING of the applied PWB.		N/A
H.3	**Qualification of coatings**	(see Form A.42)	N/A
	Coating complies with the conformity requirements.		N/A
ANNEX K	**INSULATION REQUIREMENTS NOT COVERED BY CLAUSE 6.7**	(see Forms A.15 and A.18)	N/A

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Clause	Requirement — Test	Result — Remark	Verdict

4.4	**TABLE: Testing in SINGLE FAULT CONDITION – Results**			**Form A.1**	P
Test subclause	Fault No.	Fault description	Td 4.4.3 (NOTE)	How was test terminated Comments	Meets 4.4.4
4.4.2.10	1	Opening Block	1h	I/P: 264V, 50Hz. T1 coil: 35,6°C, Wood enclosure: 26°C, Ambient: 24°C, The EUT work normally. No damage, no hazards.	P
4.4.2.1	2	CV29 SC	10min	I/P: 264V, 50Hz. The EUT shutdown. No damage, no hazards.	P
4.4.2.1	3	T1 Pin4-5 SC	10min	I/P: 264V, 50Hz. The EUT work normally. No damage, no hazards.	P
4.4.2.1	4	Q3 Pin 1-2 SC	10min	I/P: 264V, 50Hz. The EUT work normally. No damage, no hazards.	P
4.4.2.3	5	Protective conductor terminal interrupted	10min	I/P: 264V, 50Hz. Unit operate normally, no damage, no hazards.	P
NOTE Td = Test duration in hh:mm:ss Record dielectric strength test on Form A.18 and temperature tests on Forms A.26A and / or A.26B. Record in the comments column for each test whether carried out during or after SINGLE FAULT CONDITION.					
Supplementary information: SC=Short circuit, OC=Open circuit.					

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

5.1.3c)	**TABLE: MAINS supply**		**Form A.2**	P
	Marked rating .....:	100-240	V	—
	Phase .....:	Single		—
	Frequency .....:	50/60	Hz	—
	Current .....:	1,0	A	—
	Power .....:	-	W	—
	Power .....:	-	VA	—

Test No.	Voltage [V]	Frequency [Hz]	Current [A]	Power [W]	Power [VA]	Comments
1	90	50	0,29	16,30	-	Max. normal loaded.
2	90	60	0,27	16,47	-	Max. normal loaded.
3	100	50	0,15	16,49	-	Max. normal loaded.
4	100	60	0,15	16,67	-	Max. normal loaded.
5	240	50	0,29	16,44	-	Max. normal loaded.
6	240	60	0,27	16,55	-	Max. normal loaded.
7	264	50	0,15	16,63	-	Max. normal loaded.
8	264	60	0,15	16,72	-	Max. normal loaded.

NOTE – Measurements are only required for marked ratings. Initial inrush currents are not regarded.

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

5.3	**TABLE: Durability of markings**	**Form A.3**	P

Marking method (see NOTE)	Agent
1) Adhesive label	A Water
2) Ink printed	B Isopropyl alcohol 70%
3) Laser marked	C (specify agent)
4) Film-coated (plastic foil control panel)	D (specify agent)
5) Imprinted on plastic (moulded in)	E (specify agent)

NOTE – Where applicable include print method, label material, ink or paint type, fixing method, adhesive and surface to which marking is fixed.

Marking location	Marking method (see above)
Identification (5.1.2)	1)
MAINS supply (5.1.3)	1)
Fuses (5.1.4)	1)
Terminals and operating devices (5.1.5.2)	1)
Switches and circuit breakers (5.1.6)	1)
Double/reinforced equipment (5.1.7)	N/A
Field wiring Terminal boxes (5.1.8)	N/A
Warning marking (5.2)	1)
Battery charging (13.2.2)	N/A

Method	Test agent	Remains legible	Label loose	Curled edges	Comments
		Verdict	Verdict	Verdict	
1)	B	Pass	Pass	Pass	-

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.2	**TABLE: List of ACCESSIBLE parts**		**Form A.4**	P
6.1.2	Exceptions			—
6.2	Determination of ACCESSIBLE parts			—
Item	Description	Determination method (NOTE 5)	Exception under 6.1.2 (NOTE 4)	
1	Enclosure	V	No exception.	
2	LAN port	R,J	No exception.	
3	Switch	R,J	No exception.	

NOTE 1 – Test fingers and pins are to be applied without force unless a force is specified (see 6.2.2)
NOTE 2 – Special consideration should be given to inadequate insulation and high voltage parts (see 6.2)
NOTE 3 – Parts are considered to be ACCESSIBLE if they could be touched in the absence of any covering which is not considered to provide suitable insulation (see 6.4).
NOTE 4 – Capacitance test may be required (see Form A.5).
NOTE 5 – The determination methods are:
V = visual; R = rigid test finger; J = jointed test finger; P3 = pin 3 mm diameter; P4 = pin 4 mm diameter.

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6	**TABLE: Values in NORMAL CONDITION**	**Form A.5**	P
6.1.2	Exceptions	11.2 Cleaning and decontamination	—
6.3.1	Values in NORMAL CONDITION (see NOTE 1)	11.3 Spillage	—
6.6.2	Terminals for external circuit	11.4 Overflow	—
6.10.3	Plugs and connections		—

Item	Voltage			Current				Capacitance		~~10 s~~ / 5 s test (NOTE)			Comments
(see Form A.4)	V r.m.s.	V peak	V d.c.	Test circuit A1/A2/A3	mA r.m.s.	mA peak	mA d.c.	μC	mJ	V	μC	mJ	
1	-	-	-	A1	-	0,01	-	-	-	-	-	-	Limit value: 33 V r.m.s., 46.7 V peak @264 VAC, 60 Hz
2	-	-	-	A1	-	0,01	-	-	-	-	-	-	Limit value: 33 V r.m.s., 46.7 V peak @264 VAC, 60 Hz
3	-	-	-	A1	-	0,01	-	-	-	-	-	-	Limit value: 33 V r.m.s., 46.7 V peak @264 VAC, 60 Hz

NOTE – A 10 s test is specified in 6.1.2 a) b). A. 5 s test is specified in 6.10.3. The capacitance level versus voltage below the limits given from figure 3 of IEC 61010-1.

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.3.2	**TABLE: Values in SINGLE FAULT CONDITION**										**Form A.6**	P
Item	Subclause and	Voltage			Transient (see NOTE)		Current				Capacitance	Comments
(see Form A.4)	fault No. (see Form A.1)	V r.m.s.	V peak	V d.c.	V	s	Test circuit A1/A2/A3	mA r.m.s.	mA peak	mA d.c.	μF (see NOTE)	
1	5	-	-	-	-	-	A1	-	0.01	-	-	-
2	1-5	-	-	-	-	-	A1	-	0.01	-	-	-
3	1-5	-	-	-	-	-	A1	-	0.01	-	-	-
NOTE – Transient voltages must be below the limits given from Figure 2 and the capacitance below the limits from figure 3 of IEC 61010-1.												
Supplementary information:												

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.5.2.2	**TABLE: Cross-sectional area of bonding conductors** **Form A.7**	P

Conductor location	CROSS-SECTIONAL AREA [mm²]	Verdict
Bonding conductor	0,75	P

Supplementary information:

6.5.2.3	**TABLE: Tightening torque test**	**Form A.8**	N/A

Conductor location	Size of screw	Tightening torque [Nm]	Verdict

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.5.2.4	**TABLE: BONDING impedance of plug-connected equipment**	**Form A.9**	P

ACCESSIBLE part under test	Test current [A]	Voltage attained after 1 min [V]	Calculated resistance (Maximum 0,1 or 0,2 Ω) [Ω] (NOTE 1)	Verdict
Earth pin of AC inlet to furthest enclosure	25	1,5	0,06	P

NOTE 1 – For none-detachable power cord the impedance between protective conductor plug pin of MAINS cord and each ACCESSIBLE part shall not exceed 0,2 Ohm.

Supplementary information:

6.5.2.5	**TABLE: BONDING impedance of PERMANENTLY CONNECTED EQUIPMENT**	**Form A.10**	N/A

ACCESSIBLE part under test	Test current [A]	Voltage attained after 1 min (maximum 10 V) [V]	Verdict

Supplementary information:

6.5.2.6	**TABLE: Transformer PROTECIVE BONDING screen**	**Form A.11**	N/A

ACCESSIBLE part under test	Test current (see NOTE) [A]	Voltage attained after 1 min (maximum 10 V) [V]	Calculated resistance (maximum 0,1 Ω) [Ω]	Verdict

NOTE – Test current must be twice the value of the overcurrent protection means of the winding. Test is specified in 6.5.2.6 a) or b).

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.5.4	**TABLE: PROTECTIVE IMPEDANCE**	**Form A.12**	N/A

A single component

Component	Location	Measured		Calculated	Rated		Verdict	Comments
		Working voltage [V]	Current [A]	Power dissipation [W]	Working voltage [V]	Power dissipation [W]		

A combination of components

Component	Location	Comments

NOTE – A PROTECTIVE IMPEDANCE shall not be a single electronic device that employs electron conduction in a vacuum, gas or semiconductor.

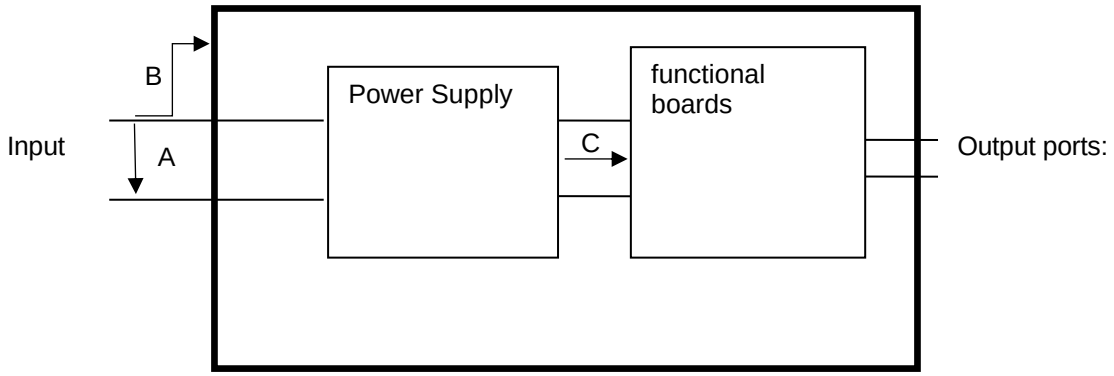
Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.5.6	**TABLE: Current- or voltage-limiting device**						**Form A.13**	N/A
Component	Location	Measured		Rated		Verdict	Comments	
		Working voltage [V]	Current [A]	Working voltage [V]	Current [A]			
Supplementary information:								

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.7	**TABLE: Insulation requirements - Block diagram of system -**	**Form A.14**	P



Pollution degree .....: 2	Overvoltage category .....: II

Area	Location	Insulation type (NOTE 1)	WORKING VOLTAGE			CLEARANCE (NOTE 3)	CREEPAGE DISTANCE (NOTE 3)				Test voltage (NOTE 2)	Comments (NOTE 3)
			RMS [V]	Peak [V]	Freq. [kHz]	[mm]	PWB [mm]	CTI	Other [mm]	CTI	[V]	
A	Line to neutral before fuse	BI	240	340	60Hz	1,5	-	-	2,5	-	2500V pk	-
B	L/N to earthed metal chassis	BI	240	340	60Hz	1,5	-	-	2,5	-	2500V pk	-
C	Primary to secondary (AC Inlet to output terminal)	DI	240	340	60Hz	3,0	-	-	5,0	-	5200V pk	

NOTE 1 – Type of insulation:
BI = BASIC INSULATION
DI = DOUBLE INSULATION
PI = PROTECTIVE IMPEDANCE
RI = Reinforced INSULATION
SI = Supplementary INSULATION
see also Form A.15 for further details

NOTE 2 - Types of voltage
Peak impulse test voltage (pulse)
r.m.s.
d.c.
peak

NOTE 3 - OVERVOLTAGE CATEGORIES or POLLUTION DEGREES which differ should be shown under "Comments"

Supplementary Information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.7	**TABLE: Insulation requirements - CLEARANCES and CREEPAGES**	**Form A.15**		P
6.2.2	Examination	6.5.4	Protective impedance	—
6.4.2	ENCLOSURES and protective barriers	6.5.6	Current- or voltage-limiting device	—
6.4.4	Impedance	9.6.1	BASIC INSULATION between opposite polarity	—

Area	Location (See Form A.14)	Insulation type (NOTE 1)	WORKING VOLTAGE (NOTE 2)			CLEARANCE		CREEPAGE DISTANCE		CTI	Verdict	Comments
			RMS [V]	Peak [V]	Frequency [kHz]	Required [mm]	Measured [mm]	Required [mm]	Measured [mm			
A	Line to neutral before fuse	BI	240	340	60Hz	1,5	4,1	2,5	4,1	-	P	-
B	L/N to earthed metal chassis	BI	240	340	60Hz	1,5	>2,0	2,5	>3,3	-	P	-
C	Primary to secondary	DI	240	340	60Hz	3,0	7,7	5,0	8,0	-	P	-

NOTE 1 – refer to Form A.14 for type of insulation shown in the insulation diagram NOTE 2 - to be used for definition of required insulation (see Form A.14)

Input supply voltage…….:	240	V	60	Hz

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.7	**TABLE: Insulation requirements - CLEARANCES and CREEPAGES**			**Form A.16**	P
6.4.2	ENCLOSURES or PROTECTIVE BARRIERS	9.6.1	Overcurrent protection basic insulation between MAINS parts		—
8	Mechanical resistance to shock and impact	10.5.1	Integrity of CLEARANCES and CREEPAGE DISTANCES		—

Area	Location (See Form A.14)	Insulation type	Mechanical tests (NOTE)					Test at max.	Measured after test (if required)		Verdict	Comments
			Applied force	Rigidity (8.2)		Drop (8.3)		RATED ambient	CLEARANCE	CREEPAGE DISTANCE		
			[N]	Static (8.2.1)	Impact (8.2.2)	Normal (8.3.1)	Hand-held/ Plug-in	(10.5.1)	[mm]	[mm]		
A	Line to neutral before fuse	BI	30	P	P	N/A	N/A	N/A	4,1	4,1	P	-
B	L/N to earthed metal chassis	BI	30	P	P	N/A	N/A	N/A	>2,0	>3,3	P	-
C	Primary to secondary	DI	30	P	P	N/A	N/A	N/A	7,7	8,0	P	-

NOTE – Refer to Form A.18 for dielectric strength tests following the above tests.

Supplementary information:

IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

6.7.2.2.2	**TABLE: Reliability of potted components** **Form A.17 (optional)**	N/A
14.1 b)	**Components and subassemblies**	N/A

Temperature Cycling Test	
Manufacturer.....:	
Type.....:	
Construction.....:	
Potting compound.....:	
CREEPAGE DISTANCES measured.....:	
CLEARANCES measured.....:	
Thickness through insulation.....:	
Adhesive test Pass/Fail .....:	
Test temperature T °C .....:	

Cycles at U= AC 500 V				Leakage current (at AC 500 V) mA			
Number of cycles	Date			68 h /	1 h /	2 h /	1 h /
				125 °C	25 °C	0 °C	25 °C
1. Cycle from		to					
2. Cycle from		to					
3. Cycle from		to					
4. Cycle from		to					
5. Cycle from		to					
6. Cycle from		to					
7. Cycle from		to					
8. Cycle from		to					

After Cycling Test :		
Humidity conditioning	48 h	
Requirements for dielectric strength (s. insulation diagram)	Test voltage V r.m.s.	Verdict
Basic insulation _____ V r.m.s.		
Supplementary insulation _____ V r.m.s.		
Reinforced insulation _____ V r.m.s.		

NOTE - to be used for evaluation of components containing insulation through solid insulation, when the component standard require thermal cycling test. Ref Clause 14.1 and Figure 15, option b)

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.8	**TABLE: Dielectric strength tests**	**Form A.18**	P
4.4.4.1 b)	Conformity after application of SINGLE FAULT CONDITIONS[1]		P
6.4	Primary means of protection[2]		P
6.6	Connections to external circuits		P
6.7	Insulation requirements[2] (see Annex K)		P
6.10.2	Fitting of non-detachable MAINS supply cords[1]		N/A
9.2 a) 2)	Eliminating or reducing the sources of ignition within the equipment		N/A
9.4 c)	Limited-energy circuit		N/A
9.6.1	Overcurrent protection basic insulation between MAINS - parts		P
	Test site altitude .....:	0 m	—
	Test voltage correction factor (see table 10) .....:	1,16 for BI 1,22 for RI	—

Location or references from Forms A.1 and A.14	Clause or sub-clause	Humidity	Working voltage	Test voltage	Comments (NOTE)	Verdict
		Yes/No	[r.m.s./a.c.]	[r.m.s./peak/d.c.]		
Line to neutral before fuse	See above	Yes	240	2500Vpk	60S	P
L/N to earthed metal chassis	See above	Yes	240	2500Vpk	60S	P
Primary to secondary	See above	Yes	240	5200Vpk	60S	P
Line to neutral before fuse	See above	No	240	2500Vpk	60S	P
L/N to earthed metal chassis	See above	No	240	2500Vpk	60S	P
Primary to secondary	See above	No	240	5200Vpk	60S	P

[1] Record the fault, test or treatment applied before the dielectric strength test. [2] Humidity preconditioning required.
NOTE: Test duration may be recorded.

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

6.10.2	TABLE: Cord anchorage					Form A.19 N/A
Location	Mass [kg]	Pull [N]	Verdict	Torque [Nm]	Verdict	Comment
Dielectric strength test for 1 min. (6.8.3.1) .... :			V r.m.s.			
Supplementary information:						

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

7.	**TABLE: Protection against mechanical HAZARDS** **Form A.20**	N/A
7.3.4	Limitation of force and pressure	—
7.3.5	Gap limitations between moving parts	—

Part / Location	Clause 7.3.4		Clause 7.3.5.1								Clause 7.3.5.2			Verdict	Comments
	Continuous	Temporary	Minimum gaps [mm]								Maximum gaps [mm]				
	Contact pressure max. 50 N /cm² @ max. 150 N	max. 250 N / 3 cm² @ max. 0,75 s	Torso 500	Head 300	Leg 180	Foot 120	Toes 50	Arm 120	Hand 100	Finger 25	Head 120	Foot 35	Finger 4		

Supplementary information:

IEC 61010-1			
Clause	Requirement – Test	Result - Remark	Verdict
7.4	**TABLE: Stability**	**Form A.20A**	N/A
	Equipment height / mass ..... :	mm / kg	—
	Equipment (Containers) loaded ..... :	[yes]	—
	Castors at unfavourable position ..... :	N/A	—
	Doors, drawers and movable arms closed ..... :	[yes]	—
	Doors and drawers at unfavourable position ..... :	[yes]	—

Location	Tilt angle	Applied force				Comments	Verdict
	10°	250 N	20% [N]	800 N	4 times load [N]		
Front side							N/A
Left side							N/A
Rear side							N/A
Right side							N/A
Top side							N/A
Working surface							N/A
Ledge							N/A
Handle							N/A
Castor / support foot removed							-

Supplementary information:

7.6	**TABLE: Wall mounting**	**Form A.20B**	N/A
	Equipment weight ..... :	kg	—
	Equipment mounted as specified by manufacturer . :	[yes / no]	—
	Equipment mounted at plasterboard (drywall) ..... :	[yes / no]	—
	More than one fastener used ..... :	[yes / no]	—
	Test maintained (after 5 s to 10 s to full load) ..... :	1 min	—

Location	Applied weight		Comments	Verdict
	4 times weight [kg]	2 times weight [kg]		
—	—	—	—	—
—	—	—	—	—

Supplementary information:

IEC 61010-1				
Clause	Requirement – Test	Result - Remark		Verdict
8.2	**TABLE: ENCLOSURE rigidity test**		**Form A.21A**	P
8.2.1	Static test			P
	Material of enclosure .....:	Plastic / Wood enclosure		—
	Preparation for the test:			—
	Operated at ambient temperature .....:	55 °C	2 h	—
Location		Comments		Verdict
1) Wood enclosure		Intact		P
2) Plastic enclosure		Intact		P
-				
-				
Supplementary information:				
8.2.2	**TABLE: Impact test**			P
	Material of enclosure .....:	Plastic / Wood enclosure		—
	Corresponding IK-code.....:	N/A		—
	Preparation for the test:	N/A		—
	Cooled to (temperature) .....:	-20 °C		—
Location		Comments		Verdict
1) Top		Intact		P
2) Left		Intact		P
3) Right		Intact		P
Supplementary information:				

IEC 61010-1			
Clause	Requirement – Test	Result - Remark	Verdict
8.3	**TABLE: Drop test**	**Form A.21B**	N/A
8.3.1	Other equipment		N/A

Location	Raised up to		Comments	—
	[mm]	30 °		
Front side				N/A
Rear side				N/A
Left side				N/A
Right side				N/A
Supplementary information:				

8.3.2	HAND-HELD EQUIPMENT and DIRECT PLUG-IN EQUIPMENT		N/A
	Material of enclosure .....:		—
	Preparation for the test:		—
	Cooled to (temperature) .....:	°C	—

Location	Comments	Verdict
Supplementary information:		

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

9	**TABLE: Protection against the spread of fire**			**Form A.22**	P
Item	Source of HAZARD or area of the equipment considered (circuit, component, liquid etc.)	Protection Method (9.1 a, b or c)	Protection details		Verdict
1	All circuits inside of EUT	9.1 c	Wood and V-0 Plastic enclosure and V-1 PCB provided		P
Supplementary information: Open equipment and can only be installed in an enclosure or cabinet to prevent accidental contact or exposure to the electrical circuits and components.					

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

9.3.2	**TABLE: Constructional requirements**	**Form A.23**	N/A
14.7	Printed wiring boards		N/A

Material tested .....:		—
Generic name .....:		—
Material manufacturer .....:		—
Type.....:		—
Colour .....:		—
Conditioning details .....:		—

		Sample					
		1	2	3	4	5	6
Thickness of specimen	mm						
Duration of flaming after first Application	s						
Duration of flaming plus glowing After second application	s						
Specimen burns to holding clamp	Yes/No						
Cotton ignited	Yes/No						
Sample result	Pass/Fail						

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

9.4	**TABLE: Limited-energy circuit**				**Form A.24**	N/A
Item or Location (see Form A.22)	9.4 a) Maximum potential in circuit voltage r.m.s./d.c. [V]	9.4 b) Current limitation (NOTE) Maximum available current [A]	9.4 b) Current limitation (NOTE) Overload protection after 120 s [A]	9.4 c) Circuit separation	Decision Yes/No	Comments
--	--	--	--	--	--	--
--	--	--	--	--	--	--
NOTE – Maximum values see Tables 17 and 18 of IEC 61010-1						
Supplementary information:						

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

9.5	**TABLE: Requirements for equipment containing or using flammable liquids**		**Form A.25**	N/A
Type of liquid	9.5 Flammable liquids			Verdict
	b) Quantity	c) Containment		

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.	**TABLE: Temperature Measurements** **Form A.26A**	P
10.1	Surface temperature limits – NORMAL CONDITION and / or SINGLE FAULT CONDITION	P
10.2	Temperature of windings – NORMAL CONDITION and / or SINGLE FAULT CONDITION	N/A
10.3	Other temperature measurements	P

Operating conditions:	Normal condition: Max. Normal load.		
Frequency..... :	60 Hz	Test room ambient temperature (ta) .. :	25 °C
Voltage ..... :	90 V	Test duration ..... :	1 h 40 min

Part / Location	t_m [°C]	t_c [°C]	t_{max} [°C]	Verdict	Comments
T1 coil	36,6	66,6	110	P	
T1 core	36,2	66,2	110	P	
PCB near L1	37,7	67,7	130	P	
RTC BAT	35,6	65,6	Ref	P	
Plastic enclosure in front of LED	26,7	56,7	85	P	
Plastic enclosure near camera	26,8	56,8	85	P	
Screen	31,2	61,2	80	P	
Wood enclosure(wood near hikvision logo)	27,0	57,0	80	P	
AC Inlet	27,8	57,8	70	P	

NOTE 1 - tm = measured temperature
tc = tm corrected (tm–ta+ 40 °C or max. rated ambient)
t_{max} = maximum permitted temperature
NOTE 2 - see also 14.1 with reference to component operating conditions
NOTE 3 - Record values for NORMAL CONDITION and / or SINGLE FAULT CONDITION in this Form use additional form if necessary
NOTE 4 - see Form A.26B for details of winding temperature measurements

Supplementary information:
Max. rated ambient=55 °C

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.	**TABLE: Temperature Measurements** **Form A.26A**	P
10.1	Surface temperature limits – NORMAL CONDITION and / or SINGLE FAULT CONDITION	P
10.2	Temperature of windings – NORMAL CONDITION and / or SINGLE FAULT CONDITION	N/A
10.3	Other temperature measurements	P

Operating conditions:	Normal condition: Max. Normal load.		
Frequency.....:	50 Hz	Test room ambient temperature (ta)... :	25 °C
Voltage .....:	264 V	Test duration.....:	1 h 30 min

Part / Location	t_m [°C]	t_c [°C]	t_{max} [°C]	Verdict	Comments
T1 coil	35,9	65,9	110	P	
T1 core	35,5	65,5	110	P	
PCB near L1	37,0	67,0	130	P	
RTC BAT	34,9	64,9	Ref	P	
Plastic enclosure in front of LED	25,9	55,9	85	P	
Plastic enclosure near camera	26,1	56,1	85	P	
Screen	30,5	60,5	80	P	
Wood enclosure (wood near hikvision logo)	26,3	56,3	80	P	
AC Inlet	27,1	57,1	70	P	

NOTE 1 - tm = measured temperature
tc = tm corrected (tm–ta+ 40 °C or max. rated ambient)
t_{max} = maximum permitted temperature
NOTE 2 - see also 14.1 with reference to component operating conditions
NOTE 3 - Record values for NORMAL CONDITION and / or SINGLE FAULT CONDITION in this Form use additional form if necessary
NOTE 4 - see Form A.26B for details of winding temperature measurements

Supplementary information:
Max. rated ambient=55 °C

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.2	**TABLE: Temperature of windings** **Form A.26B** **Resistance method Temperature Measurements**	N/A
4.4.2.7	MAINS transformers	N/A
14.2.1	Motor temperatures	N/A

Operating conditions.. :			
Frequency..... :	Hz	Test room ambient temperature (ta1/ta2) :	/ °C (initial / final)
Voltage ..... :	V	Test duration ..... :	h min

Part / Designation	Rcold [Ω]	Rwarm [Ω]	Current [A]	t_r [K]	t_c [°C]	t_{max} [°C]	Verdict	Comments

NOTE 1- R_{cold} = initial resistance R_{warm} = final resistance
t_r = temperature rise t_c = t_r corrected (t_c= t_r + [40 °C or max RATED ambient])
t_{max} = maximum permitted temperature
NOTE 2 - Indicate insulation class (IEC 60085) under comments (optional)
NOTE 3 - Record values for NORMAL CONDITION and / or SINGLE FAULT CONDITION in this Form use additional form if necessary

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.5.2	**TABLE: Resistance to heat of non-metallic ENCLOSURES**	**Form A.27**	N/A
	Test method used:		—
	Non-operative treatment ..... :	[ ]	N/A
	Empty ENCLOSURE ..... :	[X]	N/A
	Operative treatment ..... :	[ ]	N/A
	Temperature during tests ..... :		—

Description	Material	Comments	Verdict
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

Dielectric strength test (6.8) ..... :		V	[r.m.s..]	

NOTE – Within 10 minutes of the end of treatment suitable tests in acc. to 8.2 and 8.3 must be conducted and pass criteria of 8.1.

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

10.5.3	**TABLE: Insulating material**	**Form A.28**	N/A
10.5.3 1)	Ball-pressure test		N/A
	Max. allowed impression diameter ..... :	2 mm	—

Part	Test temperature [°C]	Impression diameter [mm]	Verdict
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—
—	—	—	—

Supplementary information:

10.5.3 2)	**Vicat softening test (ISO 306)**	**Form A.29**	N/A

Part	Vicat softening temperature [°C]	Thickness of sample [mm]	Verdict

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

8	**TABLE: Mechanical resistance to shock and impact** **Form A.30**	P
11	**Protection against HAZARDS from fluids and solid foreign objects**	P

Voltage tests can be carried out once after performing the tests of clause **8** and clause **11**. However, if voltage tests are carried out separately after each set of tests, two forms can be used.

Location (see Form A.14)	Clause 8 tests				Clause 11 tests				Working voltage [r.m.s.]	Test voltage [r.m.s.]	Verdict	Comments
	Static (8.2.1) 30 N	Impact (8.2.2)	Normal (8.3.1)	Handheld Plug-in (8.3.2)	Cleaning (11.2)	Spillage (11.3)	Overflow (11.4)	IEC 60529 (11.6)				
A	Pass	Pass	Pass	N/A	Pass	N/A	N/A	N/A	240V	2500Vpk	P	--
B	Pass	Pass	Pass	N/A	Pass	N/A	N/A	N/A	240V	5200Vpk	P	--

NOTE – Use r.m.s., d.c. or peak to indicate the used test voltage.

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

11.7.2	**TABLE: Leakage and rupture at high pressure**	**Form A.31**	N/A

Part	Maximum permissible working pressure [MPa]	Test pressure [MPa]	Leakage Yes / No	Deformation Yes / No	Burst Yes / No	Comments

NOTE – see also Annex G with requirements for USA and Canada.

Supplementary information:

11.7.3	**TABLE: Leakage from low-pressure parts**	**Form A.32**	N/A

Part	Test pressure [MPa]	Leakage Yes / No	Comments

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

12.2.1	**TABLE: Ionizing radiation**	**Form A.33**	N/A
12.2.1.2	Equipment intended to emit radiation		N/A

Locations tested	Measured values [µSv/h]	Verdict	Comments

Supplementary information:

12.2.1.3	**Equipment not intended to emit radiation**	**Form A.34**	N/A
	Max. allowed effective dose rate at 100 mm……:	1 µSv/h	—

Locations tested	Measured values [µSv/h]	Verdict	Comments

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

12.5.1	**TABLE: Sound level**	**Form A.35**	N/A

Locations tested	Measured maximum sound pressure level dB(A)	Calculated maximum sound power level
At operator's normal position and at bystanders' positions		
a)		
b)		
c)		
d)		
e)		
f)		

Supplementary information:

12.5.2	**TABLE: Ultrasonic pressure**	**Form A.36**	N/A

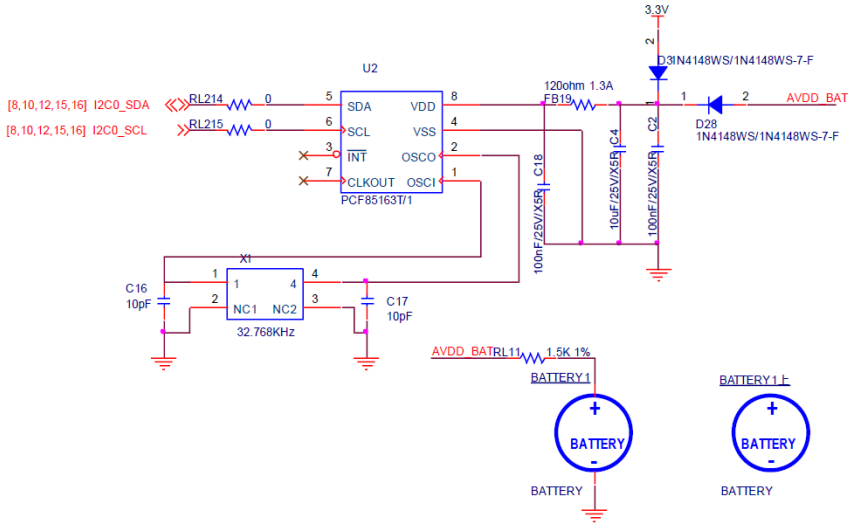
Locations tested	Measured values		Comments
	[dB]	[kHz]	
At operator's normal position			
At 1 m from the ENCLOSURE			
a)			
b)			
c)			
d)			
e)			

NOTE – No limit is specified at present, but a limit of 110 dB above the reference pressure value of 20 μPa is under consideration for applicable frequencies between 20 kHz and 100 kHz.

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

13.2.2	**TABLE: Batteries and battery charging** **Form A.37**	P
	Battery load and charging circuit diagram:	P



	Battery type .....:	See table 1.A	—
	Battery manufacturer/model/catalogue No. .....:	See table 1.A	—
	Battery ratings .....:	See table 1.A	—
	Reverse polarity instalment test		N/A

Single component failures	Verdict	
Component	Open circuit	Short circuit
RTC (C2)	--	P (Discharging 2mA)
RTC (D28)	--	P (Un-intentional charging 2,2mA)

Supplementary information:
The RTC battery of two main boards have the same result.

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

14.3	**TABLE: Overtemperature protection devices**	**Form A.38**	N/A

Reliability test

Component	Type (NOTE)	Verdict	Comments

NOTE:
NSR = non-self-resetting (10 times)
NR = non-resetting (1 time)
SR = self-resetting (200 times)

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

4.4.2.7	**TABLE: MAINS transformer**				**Form A.39**	N/A
4.4.2.7.2	Short circuit					N/A
14.6	MAINS transformers tested outside equipment					N/A
Type..... :						—
Manufacturer ..... :						—
Test in equipment						
Test on bench						
Test repeated inside equipment (see 14.6)						
Optional – Insulation class (IEC 60085) of the lowest rated winding .....:						—
Winding identification						
Type of Protector for winding (NOTE 1)						
Elapsed time						
Current, A primary						
secondary						
Winding temperature, °C primary						
(see NOTE 2) secondary						
Tissue paper / cheesecloth OK ? (Pass / Fail)						
Voltage tests (see NOTE 3)						
Primary to secondary	_____ V ____					
Primary to core	_____ V ____					
Secondary to secondary	_____ V ____					
Secondary to core	_____ V ____					
Verdict						

NOTE 1: Primary fuse - PF / ( ) A
Secondary fuse - SF / ( ) A
Overtemperature protection - OP / ( ) °C
Impedance protection - Z

NOTE 2: Indicate method of measurement - TC = with thermocouple
- R = resistance method
If resistance method is used, record resistance in cold and warm condition in Form A.26B.

NOTE 3: Record the voltage applied and the type of voltage (r.m.s. / d.c. / peak) and for results use NB = no breakdown or B = breakdown

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

4.4.2.7	**TABLE: MAINS transformer** **Form A.40**	N/A
4.4.2.7.3	Overload tests (for MAINS transformers)	N/A
14.6	MAINS transformers tested outside equipment	N/A
Type .....:		—
Manufacturer .....:		—
Test in equipment		
Test on bench		
Test repeated inside equipment (see 14.6)		
Optional – Insulation class (IEC 60085) of the lowest rated winding .....:		—

Winding identification				
Type of Protector for winding (NOTE 1)				
Elapsed time				
Current, A primary				
secondary				
Winding temperature, °C primary				
(see NOTE 2) secondary				
Tissue paper / cheesecloth OK ? (Pass / Fail)				
Voltage tests (see NOTE 3)				
Primary to secondary _____ V ____				
Primary to core _____ V ____				
Secondary to secondary _____ V ____				
Secondary to core _____ V ____				
Verdict				

NOTE 1: Primary fuse - PF / ( ) A
Secondary fuse - SF / ( ) A
Overtemperature protection - OP / ( ) °C
Impedance protection - Z

NOTE 2: Indicate method of measurement TC = with thermocouple
R = resistance method
If resistance method is used, record resistance in cold and warm condition in Form A.26B.

NOTE 3: Record the voltage applied and the type of voltage (r.m.s. / d.c. / peak) and for results use NB = no breakdown or B = breakdown

Supplementary information:

IEC 61010-1			
Clause	Requirement — Test	Result — Remark	Verdict

14.8	**TABLE: Circuits used to limit TRANSIENT OVERVOLTAGES**										**Form A.41**	N/A
Circuit / Designation	Overvoltage Category	MAINS voltage [V r.m.s.]	Test voltage [V]	t_m [°C]	t_c [°C]	t_{max} [°C]	Ignited Yes / No	Safely suppressed Yes / No	Properly functional Yes / No	Verdict	Comments	

Test room ambient temperature: °C

NOTE - t_m = measured temperature

t_c = t_m corrected (t_m–t_a+ **40 °C** or max. RATED ambient)

t_{max} = maximum permitted temperature

Conformity is checked by applying 5 positive and 5 negative impulses with the applicable impulse withstand voltage, spaced up to 1 min apart, from a hybrid impulse generator (see IEC 61180-1).

Supplementary information:

IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

Annex H	**TABLE: Qualification of conformal coating for protection against pollution**	**Form A.42**	N/A

Technical properties		
Manufacturer..... :		—
Type..... :		—
Meet requirements of ANSI / UL 746E ..... :	[yes / no]	
Manufacturer declaration of coating material :	[yes / no]	
Operating temperature of coating..... :	[ ] °C	
Comparative tracking index (CTI)..... :	[ ]	
Insulation resistance..... :	[ ] MΩ	
Dielectric strength..... :	[ ] V	
UV resistance (if required)..... :	[yes / no]	
Flammability rating..... :		
Preparation of the test specimens conducted :	[yes / no]	

Item	Test conditioning	Parameter	Td	Samples						Verdict	Comments
			h	1	2	3	4	5	6		
1	Cold		24								
2	Dry heat		48								
3	Rapid temp. change										
4	Damp heat		24								
5	Adhesion of coating	5 N									
	Visual inspection										
6	Humidity		48								
7	Insulation resistance	≥ 100 MΩ									
	Visual inspection										

NOTE Td = Test duration time

Supplementary information:

IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

	TABLE: Additional or special tests conducted	**Form A.43**	N/A
Clause and name of test	Test type and condition	Observed results	—
Supplementary information:			

IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

	TABLE 1.A: List of components and circuits relied on for safety						P
Unique component reference or location	Application/function	Manufacturer / trademark (NOTE 1)	Type / model	Technical data (NOTE 2)	Standard	Mark(s) of conformity evidence of acceptance (NOTE 3 and 4)	
Building-in power supply	Power	MEAN WELL Enterprises Co.,Ltd	LRS-100-12	I/P: 100-240Vac, 50/60Hz, 2,1A; O/P: 12Vd.c.,8,5A; Tma: 50°C	IEC 62368-1:2014	TUV Rh CB Cert: JPTUV-098884; Report: 50261876 001	
AC inlet	Electric Connects	Zhejiang LECI Electronics Co.,Ltd	DB-14	AC250V, 10A	DIN EN 60320-1(VDE 0625-1):2016-04;EN 60320-1:2015+AC:2016 DIN EN 60320-3(VDE 0625-3):2015-11;EN 60320-3:2014 IEC 60320-1:2015+COR1:2016 IEC 60320-3:2014	VDE 40032137	
Alternative	Electric Connects	Zhejiang Bei Er Jia Electronic Co., Ltd.	ST-A01-001L	AC250V, 10A	IEC 60320-1:2015	VDE CB: 5000376-1550-0002/79724; Cert: DE1-36417	
Internal AC connector	Electric Connects	Dongguan Ubill Electrical Co.,Ltd.	YG-11	AC250V, 10A	IEC 60320-1:2015 IEC 60320-1:2015/AMD1:2018 DIN EN 60320-1 (VDE 0625-1):2016-04; EN 60320-1:2015 + AC:2016	VDE 40051287	

IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

	TABLE 1.A: List of components and circuits relied on for safety						P
Unique component reference or location	Application/function	Manufacturer / trademark (NOTE 1)	Type / model	Technical data (NOTE 2)	Standard	Mark(s) of conformity evidence of acceptance (NOTE 3 and 4)	
Internal Power Cord	Electric Connects	Hui Zhou Bin Da Electronic Co., Ltd.	H03VV-F	3X0,75mm²	DIN EN 50525-2-11 (VDE 0285-525-2-11):2012-01; EN 50525-2-11:2011; IEC 50525-1-11	VDE 40043182	
Alternative	Electric Connects	Zhongshan Geyou Electrical Accessories Co., Ltd.	H03VV-F	3*0,75mm²	DIN EN 50525-2-11 (VDE 0285-525-2-11):2012-01; EN 50525-2-11:2011; IEC 50525-1-11	VDE 40049647	
Switch	Switch	Zhejiang Bei Er Jia Electronic Co., Ltd	ST-A01-004L	AC250/10A	IEC 60320-1:2015 IEC 60320-1:2015/AMD1:2018	SGS CB Cert: FI-49079; Report: SZES210400239001	
Primary wire &Earth wire	Electric Connects	Dongguan Shouyi Wire and Cable., Ltd	1015	14AWG, 600V, 105°C	UL758	UL E469565	
Alternative	Electric Connects	DONGGUAN TRIUMPHCABLE CO LTD	1015	14AWG, 600V, 105°C	UL758	UL E249743	
Earth screw	Electric Connects	Interchangeable	Interchangeable	Min 3,5mm diameter	IEC 61010-1:2010, AMD1:2016; EN 61010-1:2010 + A1:2019.	Test with appliance	
Wood enclosure (Fire enclosure)	Electric Connects	Interchangeable	Interchangeable	Min. thickness: 6,0mm	IEC 61010-1:2010, AMD1:2016; EN 61010-1:2010 + A1:2019.	Test with appliance	

IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

	TABLE 1.A: List of components and circuits relied on for safety						P
Unique component reference or location	Application/function	Manufacturer / trademark (NOTE 1)	Type / model	Technical data (NOTE 2)	Standard	Mark(s) of conformity evidence of acceptance (NOTE 3 and 4)	
Plastic enclosure power panel for Security door (Fire enclosure)	Enclosure	Covestro Deutschland AG [PC Resins]	FR3010+(z)	0,5 mm, V-0, 60°C	UL94	UL E41613 & Test with appliance	
PCB	Electric Connects	WENZHOU GALAXY ELECTRONICS CO LTD	01V0	V-0, 130°C	UL 796 UL 94	UL E157634	
Alternative	Electric Connects	WENZHOU OULONG ELECTRIC CO LTD	OL-D	V-0, 130°C	UL 796 UL 94	UL E231017	
Alternative	Electric Connects	SUNSHINE GLOBAL CIRCUITS CO LTD	SS-3	V-0, 130°C	UL 796 UL 94	UL E229342	
Alternative	Electric Connects	SUNTAK MULTILAYER PCB CO LTD	STM-5	V-0, 130°C	UL 796 UL 94	UL E207844	
Alternative	Electric Connects	LONGNAN CHAMPION ASIA ELECTRONIC TECHNOLOGY CO LTD	F-M	V-0, 130°C	UL 796 UL 94	UL E254215	
Alternative	Electric Connects	Interchangeable	Interchangeable	V-1 or better, 130°C	UL796 UL94	UL	

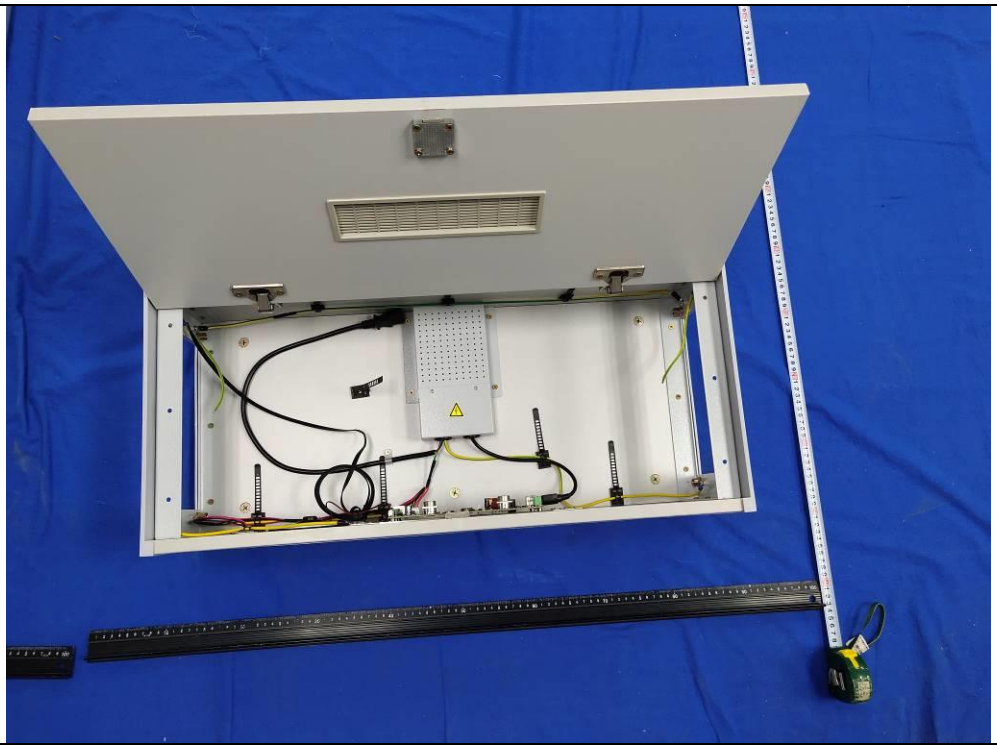
IEC 61010-1			
Clause	Requirement – Test	Result — Remark	Verdict

	TABLE 1.A: List of components and circuits relied on for safety						P
Unique component reference or location	Application/function	Manufacturer / trademark (NOTE 1)	Type / model	Technical data (NOTE 2)	Standard	Mark(s) of conformity evidence of acceptance (NOTE 3 and 4)	
Lithium Battery	Internal Battery	GUANGZHOU TIANQIU ENTERPRISE CO LTD	CR1220	3V d. c., 38mAh, Max abnormal charging current 2,5mA, Max abnormal charging voltage 3,5V	UL1642	UL MH48705	
Speaker	Speaker	Shanghai Qiangdu	P77CP08-3+W5-R	8 Ω, 3 W	IEC 61010-1:2010, AMD1:2016; EN 61010-1:2010 + A1:2019.	Test with appliance	
Small Size Display	Display	SAT ELECTRONIC CO.LTD.	SAT070AT50H18BH-26100T033ZN	7inch	IEC 61010-1:2010, AMD1:2016; EN 61010-1:2010 + A1:2019.	Test with appliance	
NOTE → 1 List all different manufacturers of the above components → 2 May include electrical, mechanical values → 3 List licence no or method of acceptance → 4 asterisk indicates mark assuring agreed level of surveillance							

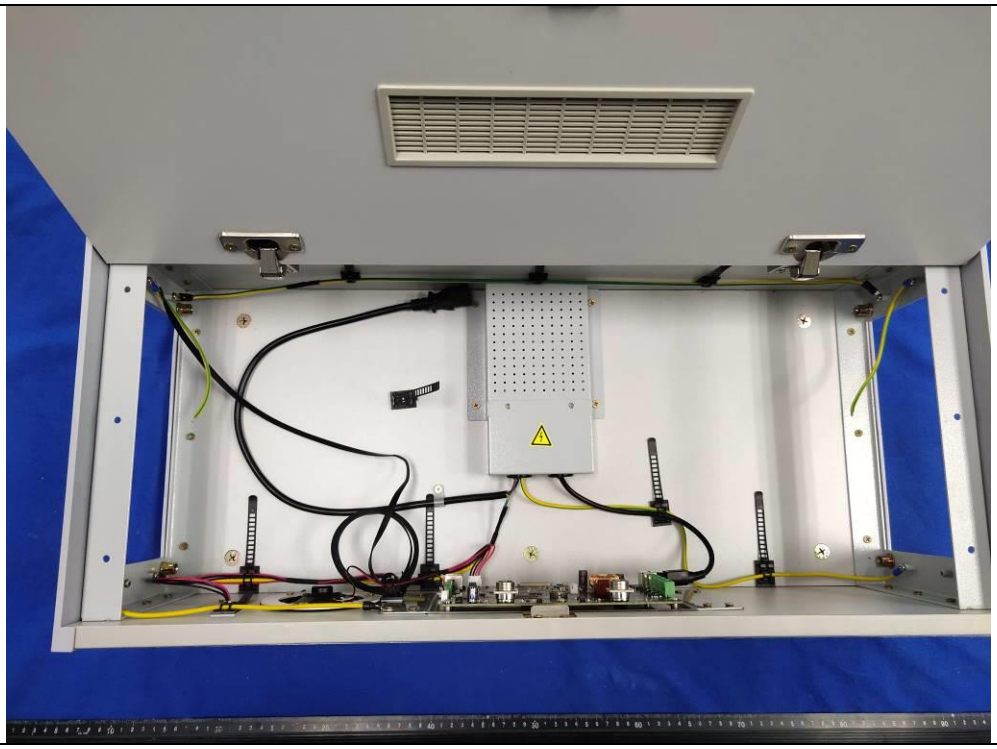
---End of Report---

Details of: General View of Walk-through Metal Detector Case (ISD-SMG1112L/CASE)

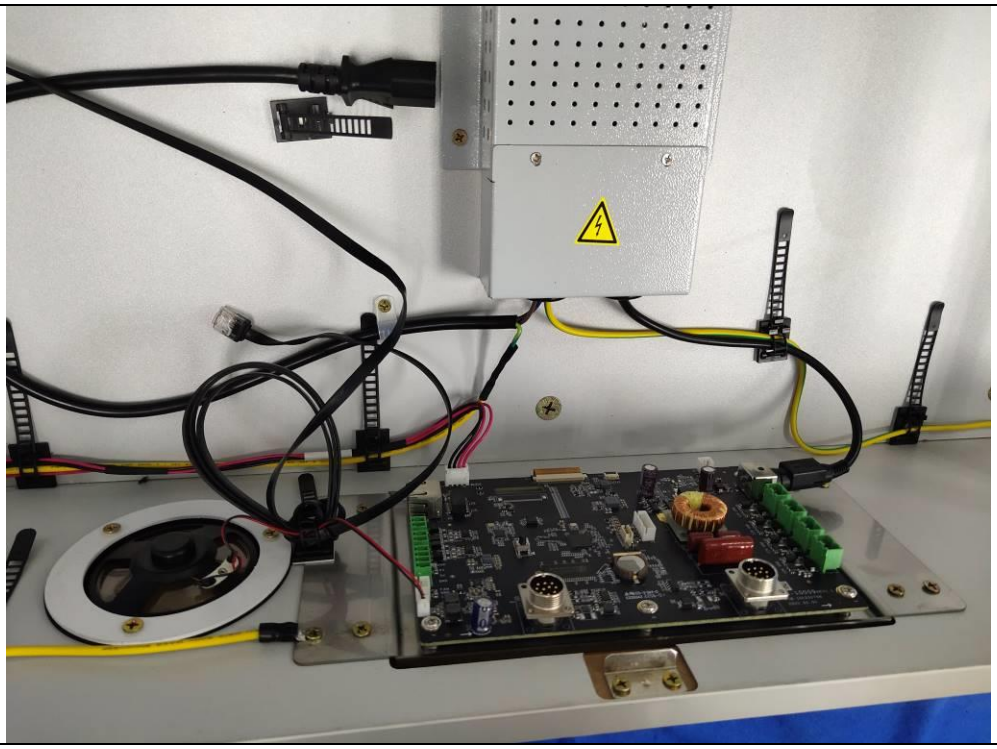
Details of: Internal view of Walk-through Metal Detector Case



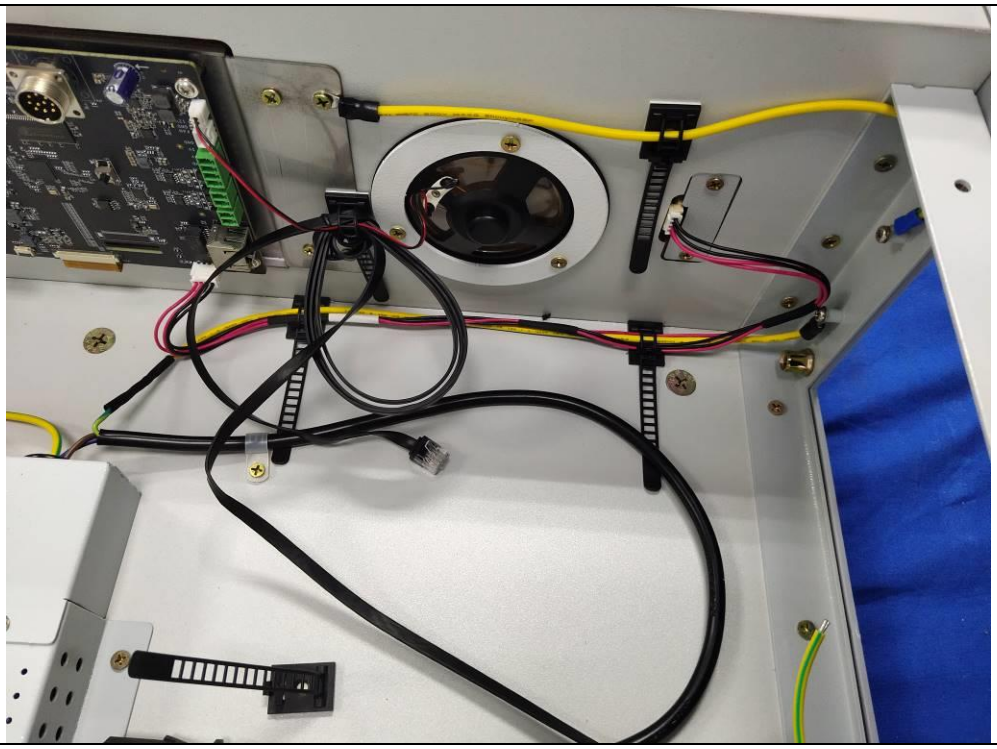
Details of: Internal view of Walk-through Metal Detector Case



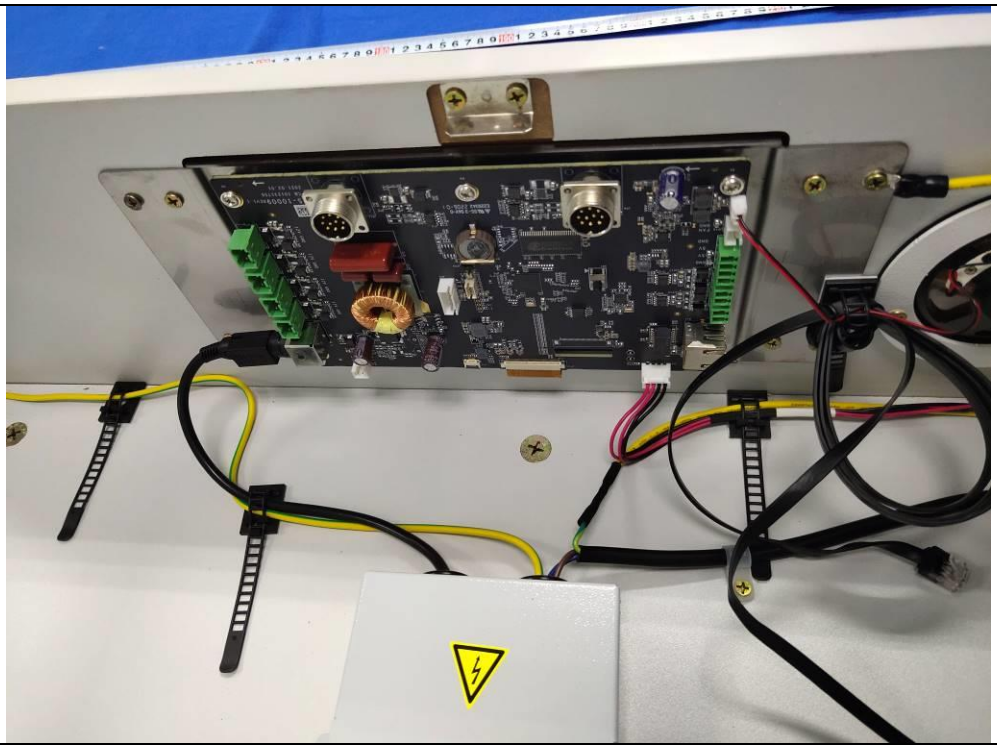
Details of: Internal view of Walk-through Metal Detector Case



Details of: Internal view of Walk-through Metal Detector Case

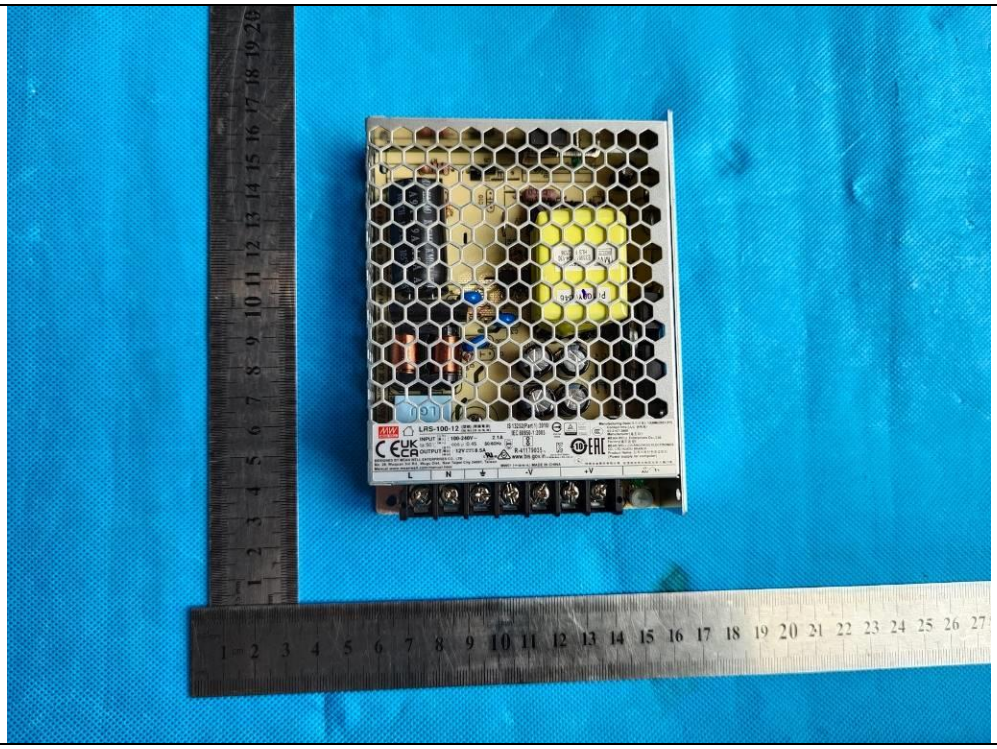


Details of: Internal view of Walk-through Metal Detector Case

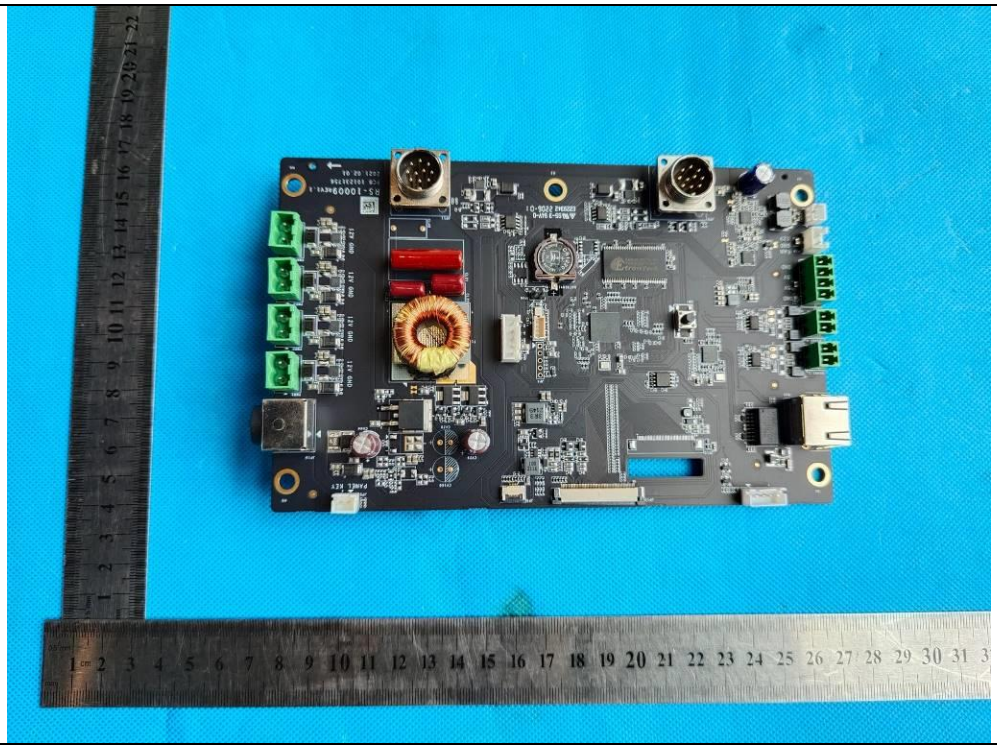


Details of: Internal view of Walk-through Metal Detector Case

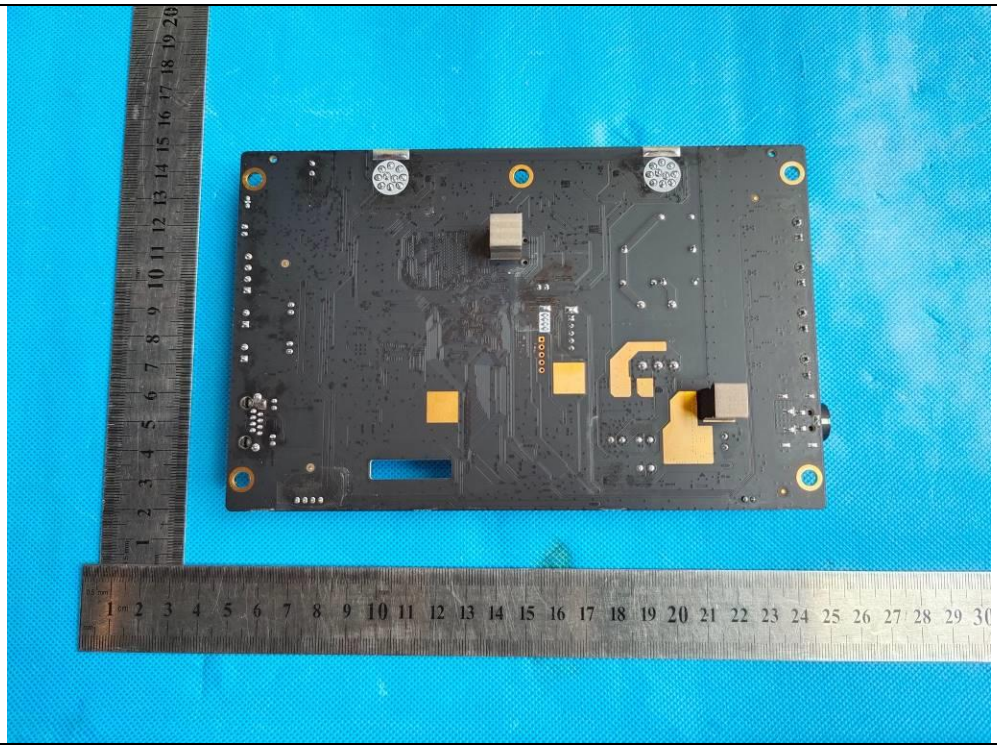
Details of: Building-in power supply



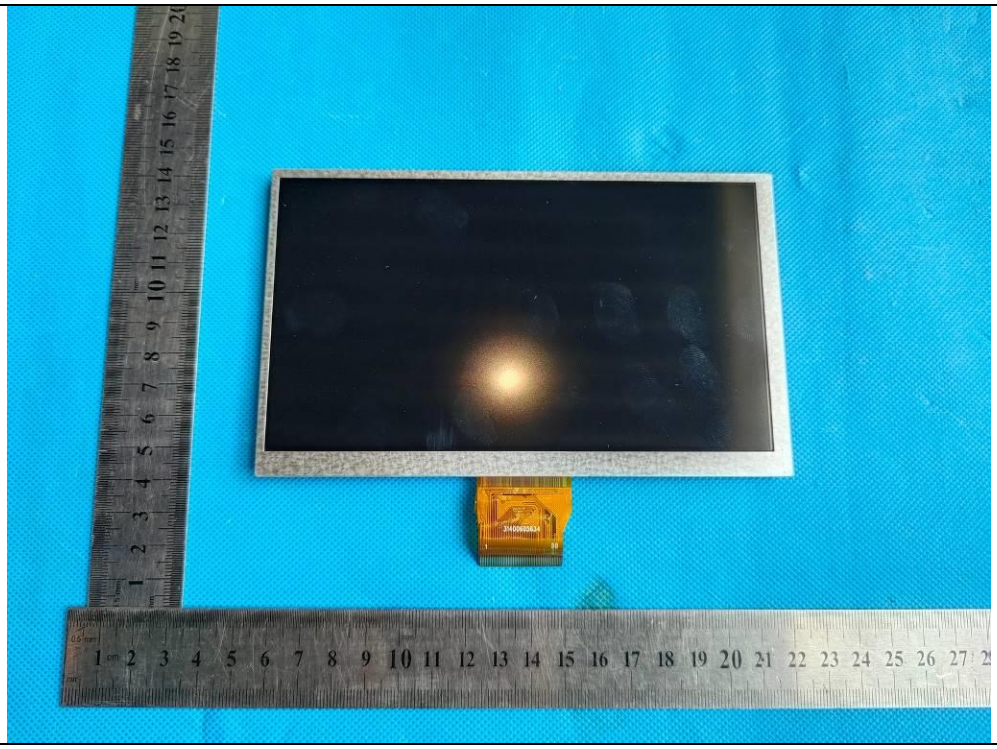
Details of: Main board



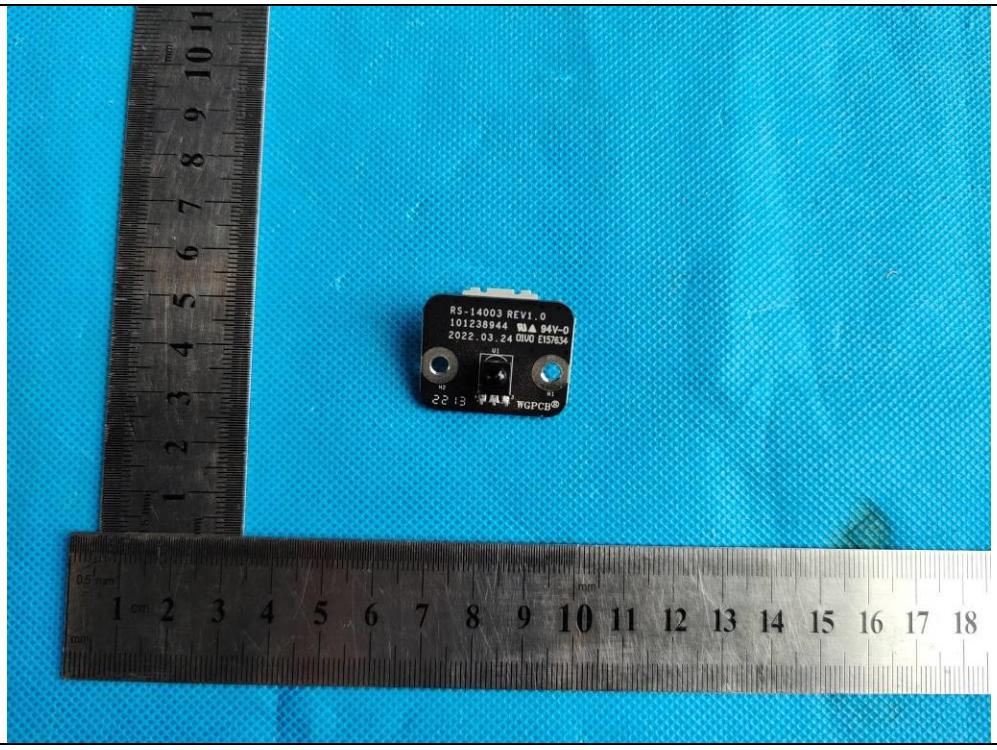
Details of: Main board



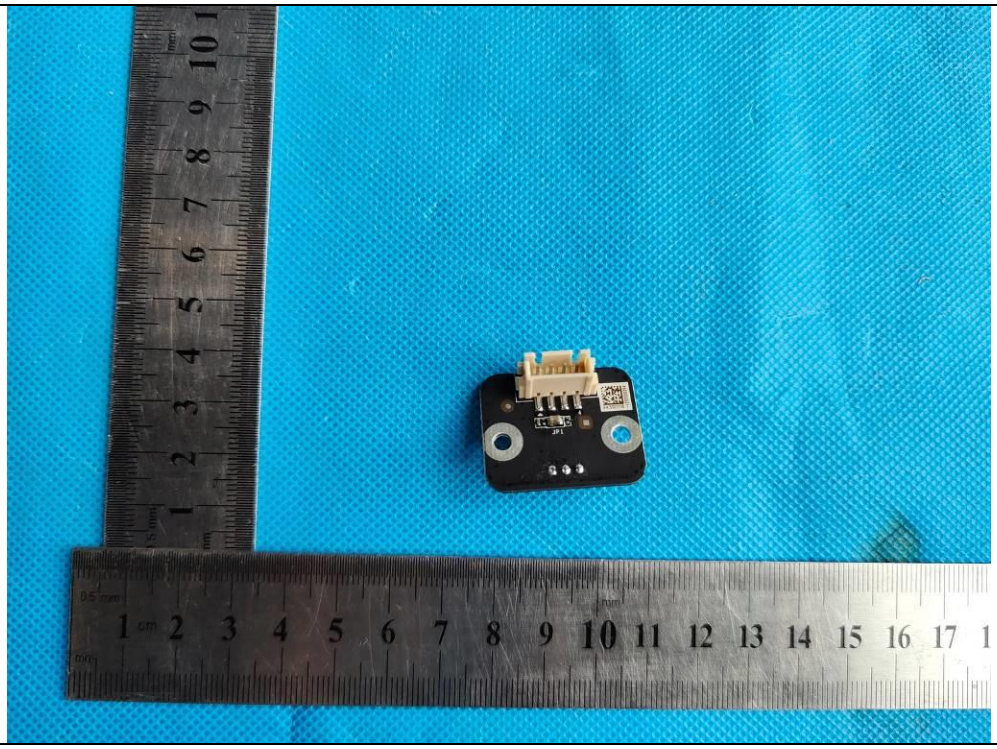
Details of: Screen



Details of: Internal view



Details of: Internal view



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

IEC61010_1P ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT **IEC 61010-1** **EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES** (Electrical Equipment For Measurement, Control, and Laboratory Use; Part1: General Requirements)			
Differences according to ..... : EN 61010-1:2010/A1			
Attachment Form No. ..... : EU_GD_IEC61010_1P **Attachment Originator .....** : TÜV Rheinland LGA Products GmbH **Master Attachment**..... : Date 2021-04-12			
	CENELEC COMMON MODIFICATIONS (EN)		P
	Procedure for voltage tests		P
6.8.3.1	**The a.c. voltage test** *Replace the first sentence by the following sentence:* The voltage tester shall be capable of maintaining the test voltage throughout the test within +/- 5 % of the specified value.		P
Annex ZA (normative)	The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.		P
Annex ZZ (informative)	Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered		P

---End of Attachment 2---

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC compliance: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

CE This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

BATTERY WARNING

1. Do not ingest battery, Chemical Burn Hazard
2. Keep new and used batteries away from the children.
3. If the battery compartment does not close securetyly, stop using the product and keep it away from children.
4. 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 lead to death.
5. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention.

BATTERY CAUTION

1. Risk of fire or explosion if the battery is replaced by an incorrect type.
2. Improper replacement of the battery with an incorrect type may defeat a safeguard (for example, in the

case of some lithium battery types).

3. Do not dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
4. Do not leave the battery in an extremely high temperature surrounding environment, which may result in an explosion or the leakage of flammable liquid or gas.
5. Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.
6. Dispose of used batteries according to the instructions
7. The equipment is not suitable for use in locations where children are likely to be present.

INSTALLATION CAUTION

1. The additional force shall be equal to three times the weight of the equipment but not less than 50N. The equipment and its associated mounting means shall remain secure during the installation. After the installation, the equipment, including any associated mounting plate, shall not be damaged.
2. This equipment is not suitable for use in locations where children are likely to be present.

Specification

General	Power supply	AC 100 V~240 V
	Consumption	< 25 W
	Operation temperature and humidity	-20°C to 55°C, 10% to 95%, RH
	Testing object	Illegal items, including smart phones and metals
	Current frequency	50 Hz~60 Hz
Dimension	Detector dimension	2200 mm x 830 mm x 580 mm (H x W x D)
	Channel dimension	1980 mm x 710 mm x 580 mm (H x W x D)
Weight	Net weight	< 60 Kg

Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss. If the device is not used according to the method specified by the manufacturer, the protection provided by the device may be damaged.

Laws and Regulations

- Use of the product must be in strict compliance with the local electrical safety regulations.

Transportation

- Keep the device in original or similar packaging while transporting it.
- Keep all wrappers after unpacking 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 the company shall not take any responsibilities.
- Do not drop the product or subject it to physical shock. Keep the device away from magnetic interference.

Power Supply

- Input voltage should meet the Limited Power Source according to the IEC61010-1 standard. Please refer to technical specifications for detailed information.
- Make sure the plug is properly connected to the power socket.
- DO NOT connect multiple devices to one power adapter, to avoid over-heating or fire hazards caused by overload.

Battery

- Improper use or replacement of the battery may result in explosion hazard. Replace with the same or equivalent type only. Dispose of used batteries in conformance with the instructions provided by the battery manufacturer.
- The built-in battery cannot be dismantled. Please contact the manufacture for repair if necessary.
- For long-term storage of the battery, make sure it is fully charged every half year to ensure the battery quality. Otherwise, damage may occur.

Maintenance

- If the product does not work properly, please contact your dealer or the nearest service center. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.
- A few device components (e.g., electrolytic capacitor) require regular replacement. The average lifespan varies, so periodic checking is recommended. Contact your dealer for details.
- Wipe the surface of device gently with a clean cloth and a small quantity of ethanol regularly.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the device may be impaired.

Using Environment

- Make sure the running environment meets the requirement of the device. The operating temperature shall be -20°C to 55°C, and the operating humidity shall be 10%-95%, no condensing.
- DO NOT expose the device to high electromagnetic radiation or dusty environments.
- DO NOT aim the lens at the sun or any other bright light.
- Do not place the device in a position where it is difficult to operate the disconnection device.

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

Attachment Equipment List

Item	Equipment Index No.	Name	Model No.	Calibrate Completed Date	Calibration due date	Remark
1	SHES501701	Digital temperature& humidity recorder	175H1	2022/08/29	2023/08/28	
2	SHES202205	digital pressure metre	/	2022/06/04	2023/06/03	
3	SHES200208	DC Power	IT6942A	2022/06/05	2023/06/06	
4	SHES201403	DC electronic load	IT8812	2022/03/04	2023/03/05	
5	SHES501301	stopwatch	/	2022-03-05	2023-03-04	
6	SHES301601	Digital push pull gauge	NK-300	2022/06/04	2023/06/03	
7	SHES111306	Φ30mm disc	Φ30mm	2020/01/03	2023/01/01	
8	SHES111401	three storey fall plank	/	/	/	
9	SHES202601	tapeline	/	/	/	
10	SHES100318	Power meter	PA310	2021/12/26	2022/12/26	
11	SHES200415	Data Acquisition	34970A	2022/06/05	2023/06/04	
12	SHES804907	High-low temperature cabinet	GW2050	2022/06/06	2023/06/05	
13	SHES501001	HI-POT Tester	ZHZ8	2022/06/14	2023/06/13	
14	SHES221401	Steel ball	TW-4	2020/05/08	2023/05/07	
15	SHES100305	Power meter	WT310	2022/09/19	2023/09/19	
16	SHES102001	Digital platform balance	TC20K	2022/08/25	2023/08/24	
17	SHES200701	Oscilloscope	MDO3032	2022/06/14	2023/06/13	
18	SHES200701a	Oscilloscope High pressure sonde	P6015A	2022/06/14	2023/06/13	
19	SHES101301	leak current box	fig4	2022/06/04	2023/06/03	
20	SHES201204	leak current hitester	ST5540	2022/06/04	2023/06/03	
21	SHES201101	Grounding resistance tester	TOS6210	2022/03/25	2023/03/24	

*******End of Attachment 4*******