



Test Report issued under the responsibility of:



TEST REPORT

IEC 62368-1

Audio/video, information and communication technology equipment Part 1: Safety requirements

Report Number : CN25MJ31 001

Date of issue : 2025-02-07

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Name of Testing Laboratory preparing the Report : Dongguan Lepont Testing Service Co., Ltd. (China)

Applicant's name : Dongguan Dongsong Electronic Co., Ltd

Address : Dongsong Electronic Building, No. 19, Xintian Street, Baizhoubian Village, East District, Dongguan, Guangdong, P.R. China

Test specification:

Standard : IEC 62368-1: 2018

Test procedure : CB Scheme

Non-standard test method : N/A

TRF template used : IECEE OD-2020-F1:2021, Ed.1.4

Test Report Form No. : IEC62368_1E

Test Report Form(s) Originator : UL(US)

Master TRF : Dated 2022-04-14

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General disclaimer:

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Test item description	SWITCHING MODE POWER SUPPLY
Trade Mark	
Manufacturer.....	Same as applicant
Model/Type reference	DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K. See model list on pages 10-11 for details.)
Ratings	Input: 100-240V~, 50/60Hz, 0.8A MAX Output: See model list on pages 10-11 for details.

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):

<input checked="" type="checkbox"/> CB Testing Laboratory:	Dongguan Lepont Testing Service Co., Ltd. (China)	
Testing location/ address	Room 102, Building 11, No.7, Houjie Science And Technology Avenue, Houjie, Dongguan, Guangdong, China	
Tested by (name, function, signature)	Paul Zou Project Handler	
Approved by (name, function, signature) .. :	Allen Yang Authorizer	

<input type="checkbox"/> Testing procedure: CTF Stage 1:		
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) .. :		
<input type="checkbox"/> Testing procedure: CTF Stage 2:		
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name, function, signature) . :		
Approved by (name, function, signature) .. :		
<input type="checkbox"/> Testing procedure: CTF Stage 3:		
<input type="checkbox"/> 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):

- Appended table (1 page)
- Attachment 1: National Differences (43 pages)
- Attachment 2: Plug test report (77 pages)
- Attachment 3: Photo documentation (27 pages)

Summary of testing:**Tests performed (name of test and test clause):**

All applicable tests as described in test case and measurement sections were performed.

4.7	Torque test
5.2	Electrical energy source classifications
5.3.2	Accessibility to electrical energy sources and safeguards (Accessibility test)
5.4.1.4, 9.3, B.1.5, B.2.6	Maximum operating temperatures for materials, components and systems
5.4.1.8	Determination of working voltage
5.4.1.10.3	Ball pressure test
5.4.2.2, 5.4.2.4 and 5.4.3	Clearance and creepage distance measurements
5.4.5	Antenna terminal insulation
5.4.8	Humidity conditioning
5.4.9	Electric strength test
5.5.2.2	Safeguards against capacitance discharge test
5.7.4	Unearthed accessible parts
6.2.2	Electrical power sources (PS) measurements for classification
6.3, 6.4	Simulated abnormal operating and single fault conditions
9.2	Thermal energy source Classifications
B.2.5	Input tests
B.3	Simulated abnormal operating condition tests
B.4	Simulated single fault conditions
F.3.10	Durability, legibility and permanence of markings
G.5.3.2	Transformer insulation
G.5.3.3	Transformer overload
G.8.2.2	Varistor overload test
Q.1.2	Limited power sources
T.2	Steady force test, 10 N

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2.

T.4	Steady force test, 100 N
T.5	Steady force test, 250 N
T.6	Enclosure impact test
T.7	Drop test
T.8	Stress relief test

Remark:

1. The models DYS830-300100W-K, DYS830-050400W-2, DYS830-060400W-2, DYS830-120250W-2, DYS830-191157W-2, DYS830-300100W-2, DYS830-060400W, DYS830-120250W, DYS830-19157W and DYS830-300100W were selected for multiple testing. If no other specified, the model DYS830-300100W-2 and DYS830-300100W were the selected model for testing.
2. The 6000 times stroke test without current and the 2000 times stroke test with current for replaceable plug was performed with appliance according to IEC/EN 60320-1.
3. Added contact resistance test after 200 cycles mechanical operation test for detachable plug portion was performed with appliance according to IEC 61984 Table 11 for JP plug, test phase B4.
4. The above tests were refer to original CB test report 50312679 001 except for test clause G.8.3.2.
5. The test clause G.8.3.2 were refer to test report CN24IHDN 001.

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

EU Group Differences, EU Special National Conditions

AU, CA, DE, DK, FI, FR, GB, IE, JP, KR, NO, NZ, SA, SE, US.

Explanation of used codes:

AU=Australia, CA=Canada, DE=Germany, DK=Denmark, FI=Finland, FR=France, GB=United Kingdom, IE=Ireland, JP=Japan, KR= Korean, NO=Norway, NZ>New Zealand, SA=SAUDI ARABIA, SE=Sweden, US=United States of America.

The product fulfils the requirements of IEC 62368-1:2018, EN IEC 62368-1:2020+A11:2020, BS EN IEC 62368-1:2020+A11:2020, AS/NZS 62368.1:2022, KC 62368-1(2021-08), J62368-1(2023), SASO-IEC 62368-1:2020 and CSA/UL 62368-1:2019..

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

- No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").
- Other:... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

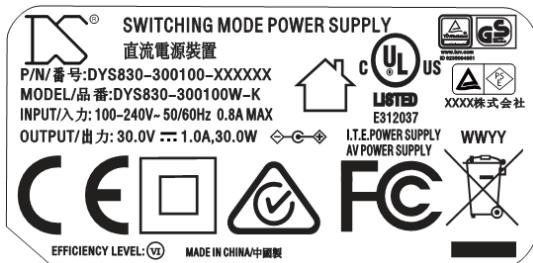
IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

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

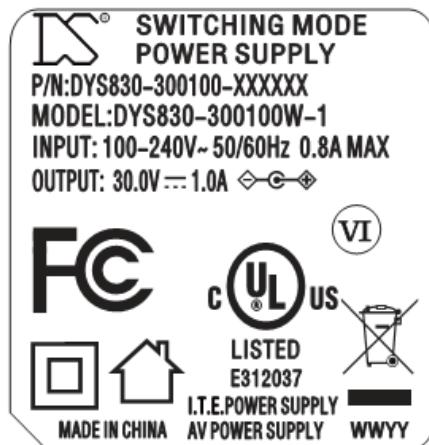
Copy of marking plate:

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

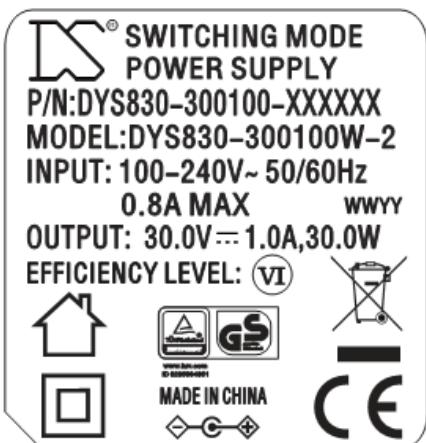
For replaceable plug direct plug-in models:



For fixed United State plug:



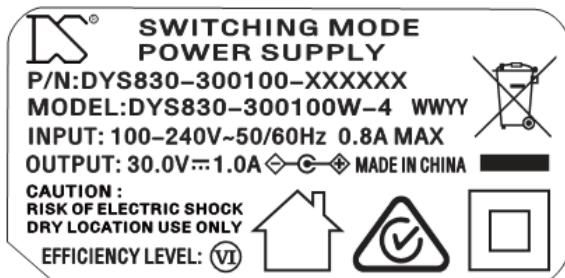
For fixed European plug:



For fixed Japanese plug



For fixed Australian plug:



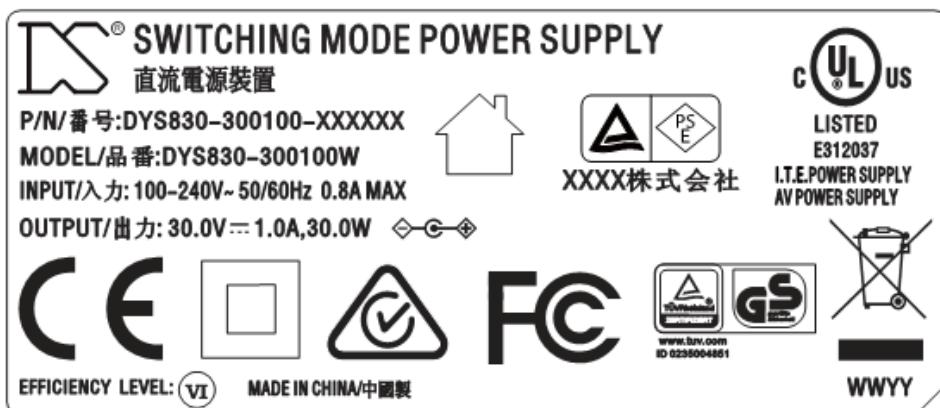
For fixed British plug:



Importer : XXXXX
Add. : XXXXX

Manufacturer : Dongguan Dongsong Electronic Co., Ltd
Add. : Dongsong Electronic Building, No. 19, Xintian
Street, Baizhoubian Village, East District, Dongguan,
Guangdong, P.R. China

For Desktop models:



Importer : XXXXX

Add. : XXXXX

Manufacturer : Dongguan Dongsong Electronic Co., Ltd

Add. : Dongsong Electronic Building, No. 19, Xintian
Street, Baizhoubian Village, East District, Dongguan,
Guangdong, P.R. China

Note:

1. There are representative labels, the others are identical to them except the model number and output rating.
2. The above marking are the minimum requirements by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
3. For European Marketing, the following information are on its packaging or in a document accompanying appliance:

Importer name: XXXXX, Importer address: XXXXX, S/N: XXXXX, Manufacturer name: Dongguan Dongsong Electronic Co., Ltd. Manufacturer address: Dongsong Electronic Building, No. 19, Xintian Street, Baizhoubian Village, East District, Dongguan, Guangdong, P.R. China.

Test item particulars:			
Product group	<input checked="" type="checkbox"/> end product	<input type="checkbox"/> built-in component	
Classification of use by	<input checked="" type="checkbox"/> Ordinary person	<input checked="" type="checkbox"/> Children likely present	
	<input type="checkbox"/> Instructed person		
	<input type="checkbox"/> Skilled person		
Supply connection.....	<input checked="" type="checkbox"/> AC mains	<input type="checkbox"/> DC mains	
	<input type="checkbox"/> not mains connected:		
	<input type="checkbox"/> ES1	<input type="checkbox"/> ES2	<input type="checkbox"/> ES3
Supply tolerance	<input checked="" type="checkbox"/> +10%/-10%		
	<input type="checkbox"/> +20%/-15%		
	<input type="checkbox"/> + % / - %		
	<input type="checkbox"/> None		
Supply connection – type	<input checked="" type="checkbox"/> pluggable equipment type A –		
	<input type="checkbox"/> non-detachable supply cord		
	<input checked="" type="checkbox"/> appliance coupler		
	<input checked="" type="checkbox"/> direct plug-in		
	<input type="checkbox"/> pluggable equipment type B –		
	<input type="checkbox"/> non-detachable supply cord		
	<input type="checkbox"/> appliance coupler		
	<input type="checkbox"/> permanent connection		
	<input type="checkbox"/> mating connector		
	<input type="checkbox"/> other:		
Considered current rating of protective device.....	<input checked="" type="checkbox"/> 16 A (20A for USA and Canada, 13A for GB.);		
	Location:	<input checked="" type="checkbox"/> building	<input type="checkbox"/> equipment
	<input type="checkbox"/> N/A		
Equipment mobility	<input checked="" type="checkbox"/> movable	<input type="checkbox"/> hand-held	<input checked="" type="checkbox"/> transportable
	<input checked="" type="checkbox"/> direct plug-in	<input type="checkbox"/> stationary	<input type="checkbox"/> for building-in
	<input type="checkbox"/> wall/ceiling-mounted	<input type="checkbox"/> SRME/rack-mounted	
	<input type="checkbox"/> other:		
Overvoltage category (OVC)	<input type="checkbox"/> OVC I	<input checked="" type="checkbox"/> OVC II	<input type="checkbox"/> OVC III
	<input type="checkbox"/> OVC IV	<input type="checkbox"/> other:	
Class of equipment	<input type="checkbox"/> Class I	<input checked="" type="checkbox"/> Class II	<input type="checkbox"/> Class III
	<input type="checkbox"/> Not classified	<input type="checkbox"/>	
Special installation location	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> restricted access area	
	<input type="checkbox"/> outdoor location	<input type="checkbox"/>	
Pollution degree (PD)	<input type="checkbox"/> PD 1	<input checked="" type="checkbox"/> PD 2	<input type="checkbox"/> PD 3
Manufacturer's specified T _{ma}	45 °C	<input type="checkbox"/> Outdoor: minimum	°C
IP protection class	<input checked="" type="checkbox"/> IPX0	<input type="checkbox"/> IP____	
Power systems	<input checked="" type="checkbox"/> TN	<input type="checkbox"/> TT	<input type="checkbox"/> IT – 230 V L-L
	<input type="checkbox"/> not AC mains		
Altitude during operation (m)	<input type="checkbox"/> 2000 m or less	<input checked="" type="checkbox"/> 5000 m	
Altitude of test laboratory (m)	<input checked="" type="checkbox"/> 2000 m or less	<input type="checkbox"/> m	
Mass of equipment (kg)	For direct plug-in models approx. 0.134kg; For desktop models approx. 0.135Kg.		

Possible test case verdicts:

- test case does not apply to the test object....: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement....: F (Fail)

Testing:

Date of receipt of test item: 2024-12-23 (for this report);
2019-11-28 (for test report 50312679 001).

Date (s) of performance of tests: 2024-12-25 to 2024-12-31 (for this report);
2020-04-01 to 2020-04-25 (for test report 50312679 001).

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a comma / point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IEC62368-1:

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

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

Name and address of factory (ies) :	1. Dongguan Dongsong Electronic Co., Ltd Dongsong Electronic Building No. 19, Xintian Street Baizhoubian Village, East District, Dongguan, Guangdong, P.R. China 2. Yueyang Dongsong Electronic Co., Ltd No.038, Huarong Avenue East Road, Zhanghua Town, Huarong County, Yueyang City, Hunan, P.R. China 3. Dongsong International Vietnam Company Limited. Lot 32, Road 7, Tan Duc Industrial Park, Duc Hoa Ha Commune, Duc Hoa District, Long An Province, Vietnam
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General product information and other remarks:

1. The equipment is Class II SWITCHING MODE POWER SUPPLY (desktop type or direct plug-in type) used for DC supply of information technology and Audio/Video equipment. Output cord is non-detachable;
2. The power adapter's top enclosure is secured to bottom enclosure by ultrasonic welding;
3. The test items are pre-production samples without serial numbers;
4. Specified maximum ambient temperature is 45°C;
5. For the detachable direct plug-in type equipment (EU, UK and AU plug models), the pins parts of plug portion were moulded into the plug portion and screwed, For the other models, The pins parts of plug were moulded into the plug portion directly. It is impossible to remain in the mains socket-outlet after removal of the adapter, details see photo document.
6. For the plug evaluation, European plug according to EN 50075:1990, UK plug according to BS1363-1: 2016+A1:2018, Australian plug according to AS/NZS 3112:2017+A1:2021, Japanese plug according to JIS C 8303: 2007, all other plugs should be evaluated during national approval.
7. The equipment was evaluated for a maximum operating altitude of 5000 m. Therefore the requirements for clearances were considered and the required clearance was multiplied with an altitude correction factor of 1.48.

Model difference:

1. R1, R2, R3, R4, R13, R14, R15, R16, R17, R18, R19, R21, R22, R23, R24, R28, R9, R25, R26, R27, R6, R7, R8, R5, R10, R11, R12, R20, C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, RT2, ZR1, DB1, ZD1, ZD2, D3, U4: The parameters of these components depend on output voltage and output current.
2. T1: The adaptors with different output voltage have different secondary winding and feedback winding N3 of transformer.
3. Combination of Input connection and enclosure are listed as below. Please see photo documents for more details;

Model name	Type of input connection
DYS830-xyW-z	Fixed direct plug-in and replaceable direct plug-in
DYS830-xyW	Desktop type with C8 inlet

4. There are two types of PCB layout, PCB type DYS830A-P01 is identical to the DYS830B-P01 except for the secondary circuit, see model list and photo documents for details.
5. There are different types of direct plug-in enclosure size as below. Please see photo documents for details:

Plug type	Fixed EU plug	Fixed UK plug	Fixed AU plug	Fixed JP, US plug	Detachable plug
Direct plug-in enclosure size	75.0*48.0*30.0 mm	75.0*50.0*30.0 mm	75.0*54.0*30.0 mm	75.0*48.0*31.0 mm	74.8*47.8*34.7 mm

Model list:

Model	Input	Output			Transformer no.	PCB layout
		Voltage (Vdc)	Current (Max. A)	Power (Max. W)		
DYS830-xyW, DYS830-xyW-z	100-240V~, 50/60Hz, 0.8A Max.	5.0-7.5	4.00	24.0	DYS830-T01	DYS830A-P01
		7.6-11.9	3.00	27.0	DYS830-T02	DYS830A-P01 or DYS830B-P01
		12.0-13.0	2.50	30.0		
		13.1-19.0	2.29	30.0	DYS830-T03	DYS830B-P01
		19.1-30.0	1.57	30.0	DYS830-T04	DYS830B-P01

Note:

"x" is 3-digit number from 050 to 300 which represents the output voltage in volt after dividing by 10 in a step of 0.1V, for example, 050 represents the output voltage is 5.0Vdc, 300 represents the output voltage is 30.0Vdc.

"y" is 3-digit number from 001 to 400 which represents the output current in ampere after dividing by 100 in a step of 0.01A, for example, 001 represents the output current is 0.01A, 400 represents the output current is 4.00A.

"z" can be 1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K for plug different national type:

'1'=United state plug type	'2'=European plug type	'3'=British plug type
'4'=Australia plug type	'6'=Japanese plug type	'8'=Russia plug type
'9'=Singapore plug type	'10'=Mexico plug type	'11'=Brazil plug type
'12'=Saudi Arabian plug type	'14'=Thailand plug type	'15'=Argentina plug type
'K'=Replaceable plug type		

By multiplication of output voltage and output current, the type designations are limited through the max. output power.

Description of changes:

This report was based on original CB report 50312679 001, including following changes:

1. Updated the test standard from IEC 62368-1: 2014 to IEC 62368-1: 2018.
2. Updated alternative sources of varistor, see bold information in table 4.1.2 for details.
3. Update manufacturer and model information of Plastic enclosure, Material of AC connector, Fuse, X-Capacitor, Bobbin of NF1, Opto-coupler, Y-Capacitor, Transformer component (Varnish, Triple insulation wire). See bold in table 4.1.2 for details.
4. Add factory and address: "Yueyang Dongsong Electronic Co., Ltd" with "No.038, Huarong Avenue East Road, Zhanghua Town, Huarong County, Yueyang City, Hunan, P.R. China".
5. Updated the AU plug standard from AS/NZS 3112:2017 to AS/NZS 3112: 2017 + A1: 2021.
6. Added test for IEC 61984 for JP plug, see tests performed on page 3 for details.
7. Added to evaluate the missing tests of EU plug portion and UK plug portion. See bold information in attached plug test report for details.

For the above described changes, the following testing was considered to be necessary.

Item.	Testing	Comments	Result
1, 2	Clause G.8.2.2	See relevant sub-clauses and appended tables for details.	P
3	N/A	No Additional test needed.	P
4	N/A	No Additional test needed.	P
5	AU test plug	See relevant sub-clauses and test report for details	P
6	IEC 61984	See relevant sub-clauses and test report for details	P
7	EU and UK test plug	See relevant sub-clauses and test report for details	P

OVERVIEW OF ENERGY SOURCES AND SAFEGUARDS					
Clause	Possible Hazard				
5	Electrically-caused injury				
Class and Energy Source (e.g. ES3: Primary circuit)	Body Part (e.g. Ordinary)	Safeguards			
ES3: Primary circuits supplied by a.c. mains supply		B	S	R	
ES3: Capacitor connected between L and N	Ordinary	N/A	N/A	Enclosure, see 5.4.2, 5.4.3, 5.4.4, 5.5.2, 5.5.3 and 5.5.4.	
ES1: Secondary output connector	Ordinary	N/A	N/A	N/A	See 5.5.2.2
6	Electrically-caused fire				
Class and Energy Source (e.g. PS2: 100 Watt circuit)	Material part (e.g. Printed board)	Safeguards			
PS3: All primary circuits inside the equipment enclosure		B	1 st S	2 nd S	
PS2: Secondary output connector	All combustible materials within equipment fire enclosure	Equipment safeguard (e.g., no ignition occurs)	Equipment safeguard (e.g., control of fire spread)	N/A	
PS2: Secondary output connector	Connections of secondary equipment	Equipment safeguard (e.g., no ignition occurs)	N/A	N/A	
7	Injury caused by hazardous substances				
Class and Energy Source (e.g. Ozone)	Body Part (e.g., Skilled)	Safeguards			
N/A		B	S	R	
8	Mechanically-caused injury				
Class and Energy Source (e.g. MS3: Plastic fan blades)	Body Part (e.g. Ordinary)	Safeguards			
MS1: Mass of the unit		B	S	R	
MS1: Edges and corners	Ordinary	N/A	N/A	N/A	
9	Thermal burn				
Class and Energy Source (e.g. TS1: Keyboard caps)	Body Part (e.g., Ordinary)	Safeguards			
TS1: Plastic enclosure		B	S	R	
10	Radiation				
Class and Energy Source (e.g. RS1: PMP sound output)	Body Part (e.g., Ordinary)	Safeguards			
N/A		B	S	R	
N/A	N/A	N/A	N/A	N/A	

Supplementary Information:

"B" – Basic Safeguard; "S" – Supplementary Safeguard; "R" – Reinforced Safeguard

ENERGY SOURCE DIAGRAM

Optional. Manufacturers are to provide the energy sources diagram identify declared energy sources and identifying the demarcations are between power sources. Recommend diagram be provided included in power supply and multipart systems.

Insert diagram below. Example diagram designs are; Block diagrams; image(s) with layered data; mechanical drawings

ES3 (Primary circuits supplied by a.c. mains supply and Capacitor connected between L and N),

ES1 (Secondary output connector),

PS3 (All primary circuits inside the equipment enclosure),

PS2 (Secondary output connector)

MS1 (Edges and corners of enclosure, mass of the unit)

TS1 (Plastic enclosure)

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

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

4	GENERAL REQUIREMENTS		P
4.1.1	Acceptance of materials, components and subassemblies	See appended table 4.1.2	P
4.1.2	Use of components	Components which are certified to IEC/EN and/or national standards are used correctly within their ratings. Components not covered by IEC/EN standards are tested under the conditions present in the equipment. See also Annex G.	P
4.1.3	Equipment design and construction	Evaluation of safeguards regarding preventing access to ES3 parts, limiting the source supplying outputs to fulfill ES1, and protection in regard to risk of ignition, mechanical-caused injury and thermal burn considered.	P
4.1.4	Specified ambient temperature for outdoor use (°C)	Indoor use	N/A
4.1.5	Constructions and components not specifically covered		N/A
4.1.8	Liquids and liquid filled components (LFC)	(See G.15)	N/A
4.1.15	Markings and instructions	(See Annex F)	P
4.4.3	Safeguard robustness		P
4.4.3.1	General		P
4.4.3.2	Steady force tests	(See Clause T.2, T.4)	P
4.4.3.3	Drop tests	(See Annex T.7)	P
4.4.3.4	Impact tests	(See Annex T.6)	P
4.4.3.5	Internal accessible safeguard tests		N/A
4.4.3.6	Glass impact tests		N/A
4.4.3.7	Glass fixation tests		N/A
	Glass impact test (1J)		N/A
	Push/pull test (10 N)		N/A
4.4.3.8	Thermoplastic material tests	(See Annex T.8)	P
4.4.3.9	Air comprising a safeguard		N/A
4.4.3.10	Accessibility, glass, safeguard effectiveness		N/A
4.4.4	Displacement of a safeguard by an insulating liquid		N/A
4.4.5	Safety interlocks		N/A
4.5	Explosion		P

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

4.5.1	General		P
4.5.2	No explosion during normal/abnormal operating condition	(See Clause B.2, B.3)	P
	No harm by explosion during single fault conditions	(See Clause B.4)	P
4.6	Fixing of conductors		P
	Fix conductors not to defeat a safeguard		P
	Compliance is checked by test	(See Clause T.2)	P
4.7	Equipment for direct insertion into mains socket-outlets		P
4.7.2	Mains plug part complies with relevant standard .. :	For EU, UK, AU, JP plug, see attached plug test report.	P
4.7.3	Torque (Nm)	Max. 0.064Nm	P
4.8	Equipment containing coin/button cell batteries		N/A
4.8.1	General	No coin cells.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery compartment door/cover construction		N/A
	Open torque test		N/A
4.8.4.2	Stress relief test		N/A
4.8.4.3	Battery replacement test		N/A
4.8.4.4	Drop test		N/A
4.8.4.5	Impact test		N/A
4.8.4.6	Crush test		N/A
4.8.5	Compliance		N/A
	30N force test with test probe		N/A
	20N force test with test hook		N/A
4.9	Likelihood of fire or shock due to entry of conductive object		P
4.10	Component requirements		P
4.10.1	Disconnect Device	(See Annex L)	P
4.10.2	Switches and relays		N/A

5	ELECTRICALLY-CAUSED INJURY	P
5.2	Classification and limits of electrical energy sources	P
5.2.2	ES1, ES2 and ES3 limits	P
5.2.2.2	Steady-state voltage and current limits	(See appended table 5.2)
5.2.2.3	Capacitance limits	(See appended table 5.2)
5.2.2.4	Single pulse limits	N/A
5.2.2.5	Limits for repetitive pulses	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.6	Ringing signals	(See Annex H)	N/A
5.2.2.7	Audio signals	(See Clause E.1)	N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.1 a)	Accessible ES1/ES2 derived from ES2/ES3 circuits		N/A
5.3.1 b)	Skilled persons not unintentional contact ES3 bare conductors		N/A
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
	Accessibility to outdoor equipment bare parts		N/A
5.3.2.2	Contact requirements	No openings on enclosures as received and after mechanical test.	P
	Test with test probe from Annex V		—
5.3.2.2 a)	Air gap – electric strength test potential (V)	(See appended table 5.4.9)	N/A
5.3.2.2 b)	Air gap – distance (mm)		N/A
5.3.2.3	Compliance		N/A
5.3.2.4	Terminals for connecting stripped wire		N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material	The choice and application have taken into account as specified in this Clause 5 and Annex T and natural rubber, hygroscopic materials or asbestos are not used as insulation.	P
5.4.1.3	Material is non-hygroscopic	(See sub-clause 5.4.8) All source of insulation materials and plastic enclosure listed table 4.1.2 were considered.	P
5.4.1.4	Maximum operating temperature for insulating materials	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
5.4.1.5	Pollution degrees	PD2	P
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling test		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage	(See appended table 5.4.1.8)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		N/A
5.4.1.10.2	Vicat test.....:		N/A
5.4.1.10.3	Ball pressure test	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.1	General requirements		P
	Clearances in circuits connected to AC Mains, Alternative method		N/A
5.4.2.2	Procedure 1 for determining clearance		N/A
	Temporary overvoltage		—
5.4.2.3	Procedure 2 for determining clearance		P
5.4.2.3.2.2	a.c. mains transient voltage	2500 Vpk.	—
5.4.2.3.2.3	d.c. mains transient voltage		—
5.4.2.3.2.4	External circuit transient voltage.....		—
5.4.2.3.2.5	Transient voltage determined by measurement		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages	Up to 5000m, multiplication factors: 1.48	P
5.4.2.6	Clearance measurement	(See appended table 5.4.2)	P
5.4.3	Creepage distances		P
5.4.3.1	General		P
5.4.3.3	Material group	IIIa/IIIb	—
5.4.3.4	Creepage distances measurement	(See appended table 5.4.3)	P
5.4.4	Solid insulation		P
5.4.4.1	General requirements		P
5.4.4.2	Minimum distance through insulation	(See appended table 5.4.4.2)	P
5.4.4.3	Insulating compound forming solid insulation	No insulation compound forming solid insulation other than optical isolator.	P
5.4.4.4	Solid insulation in semiconductor devices	No insulation compound forming solid insulation other than optical isolator, see table 4.1.2 for detail.	P
5.4.4.5	Insulating compound forming cemented joints		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.6	Thin sheet material	Two layers of insulation tape provided on core as reinforce insulation	P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material	Tape used in T1	P
	Number of layers (pcs)	: 2	P
5.4.4.6.3	Non-separable thin sheet material		N/A
	Number of layers (pcs)	:	N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material	:	N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		P
5.4.4.9	Solid insulation at frequencies >30 kHz, E_p , K_R , d , V_{pw} (V)	: (See appended Table 5.4.4.9)	P
	Alternative by electric strength test, tested voltage (V), K_R	: (See appended Tables 5.4.4.9 and 5.4.9)	P
5.4.5	Antenna terminal insulation		P
5.4.5.1	General		P
5.4.5.2	Voltage surge test	Input circuit to output circuit	P
5.4.5.3	Insulation resistance ($M\Omega$).....	: 1000M Ω	P
	Electric strength test	: (See appended table 5.4.9)	P
5.4.6	Insulation of internal wire as part of supplementary safeguard		N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning	All source of transformer and insulation materials listed in table 4.1.2. were considered	P
	Relative humidity (%), temperature (°C), duration (h)	: 93%, 40°C, 120 h.	—
5.4.9	Electric strength test	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for type test of solid insulation.....	:	P
5.4.9.2	Test procedure for routine test		N/A
5.4.10	Safeguards against transient voltages from external circuits	No connection to external circuits with transient voltage.	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test	:	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.2.3	Steady-state test..... :		N/A
5.4.10.3	Verification for insulation breakdown for impulse test		N/A
5.4.11	Separation between external circuits and earth		N/A
5.4.11.1	Exceptions to separation between external circuits and earth	No connection to external circuits with transient voltage.	N/A
5.4.11.2	Requirements		N/A
	SPDs bridge separation between external circuit and earth		N/A
	Rated operating voltage U_{op} (V)..... :		—
	Nominal voltage U_{peak} (V)..... :		—
	Max increase due to variation ΔU_{sp} :		—
	Max increase due to ageing ΔU_{sa} :		—
5.4.11.3	Test method and compliance		N/A
5.4.12	Insulating liquid		N/A
5.4.12.1	General requirements		N/A
5.4.12.2	Electric strength of an insulating liquid		N/A
5.4.12.3	Compatibility of an insulating liquid		N/A
5.4.12.4	Container for insulating liquid		N/A
5.5	Components as safeguards		P
5.5.1	General		P
5.5.2	Capacitors and RC units	Approved X and Y capacitors used.	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector..... :	(See table 5.5.2.2)	P
5.5.3	Transformers	(See Annex G.5.3)	P
5.5.4	Optocouplers	(See Annex G.12)	P
5.5.5	Relays		N/A
5.5.6	Resistors		N/A
5.5.7	SPDs	(See Annex G.8)	P
5.5.8	Insulation between the mains and an external circuit consisting of a coaxial cable		N/A
5.5.9	Safeguards for socket-outlets in outdoor equipment		N/A
	RCD rated residual operating current (mA)		—
5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

5.6	Protective conductor		N/A
5.6.2	Requirement for protective conductors	Class II equipment	N/A
5.6.2.1	General requirements		N/A
5.6.2.2	Colour of insulation		N/A
5.6.3	Requirement for protective earthing conductors		N/A
	Protective earthing conductor size (mm ²) :		—
	Protective earthing conductor serving as a reinforced safeguard		N/A
	Protective earthing conductor serving as a double safeguard		N/A
5.6.4	Requirements for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm ²). :		—
5.6.4.2	Protective current rating (A)..... :		—
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Terminal size for connecting protective earthing conductors (mm)..... :		N/A
	Terminal size for connecting protective bonding conductors (mm) :		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective bonding system		N/A
5.6.6.1	Requirements		N/A
5.6.6.2	Test Method..... :		N/A
5.6.6.3	Resistance (Ω) or voltage drop..... :		N/A
5.6.7	Reliable connection of a protective earthing conductor		N/A
5.6.8	Functional earthing		N/A
	Conductor size (mm ²). :		N/A
	Class II with functional earthing marking :		N/A
	Appliance inlet cl & cr (mm) :		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current		P
5.7.2.2	Measurement of voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
5.7.4	Unearthed accessible parts : (See appended table 5.7.4)		P

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Clause	Requirement + Test	Result - Remark	Verdict

5.7.5	Earthed accessible conductive parts:		N/A
5.7.6	Requirements when touch current exceeds ES2 limits		N/A
	Protective conductor current (mA).....:		N/A
	Instructional Safeguard.....:		N/A
5.7.7	Prospective touch voltage and touch current associated with external circuits		N/A
5.7.7.1	Touch current from coaxial cables		N/A
5.7.7.2	Prospective touch voltage and touch current associated with paired conductor cables		N/A
5.7.8	Summation of touch currents from external circuits		N/A
	a) Equipment connected to earthed external circuits, current (mA)		N/A
	b) Equipment connected to unearthing external circuits, current (mA)		N/A
5.8	Backfeed safeguard in battery backed up supplies		N/A
	Mains terminal ES		N/A
	Air gap (mm).....:		N/A

6	ELECTRICALLY- CAUSED FIRE		P
6.2	Classification of PS and PIS		P
6.2.2	Power source circuit classifications	PS (power source) classification determined by measuring the maximum power in Figures 34 and 35 for load and power source circuits.	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS	All circuit inside enclosure is claimed as Arcing PIS	P
6.2.3.2	Resistive PIS	All circuit inside enclosure is claimed as Resistive PIS	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6 and B.3, B.4)	P
	Combustible materials outside fire enclosure	V-0.	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard method	Method of "control of fire spread" is used.	P

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Clause	Requirement + Test	Result - Remark	Verdict

6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		P
6.4.3.1	Supplementary safeguards		N/A
6.4.3.2	Single Fault Conditions:		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits	Output terminal	P
6.4.5.2	Supplementary safeguards	(See appended tables 4.1.2 and Annex G)	P
6.4.6	Control of fire spread in PS3 circuits	<p>Compliance detailed as follows:</p> <ul style="list-style-type: none"> - <u>Printed board</u>: rated min. V-1 - <u>Wire insulation (tubing)</u>: complying with Clause 6 (See Table 4.1.2 for wiring used). - <u>All other components</u>: at least V-2 except for mounted on min. V-1 material or small parts of combustible material. <p><u>Isolating transformer</u>: complying with G.5.3.</p>	P
6.4.7	Separation of combustible materials from a PIS	Fire enclosure provided	N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.2	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier	No fire barrier.	N/A
6.4.8.2.2	Requirements for a fire enclosure		P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings	No Fire enclosure opening	P
6.4.8.3.2	Fire barrier dimensions	No fire barrier	N/A
6.4.8.3.3	Top openings and properties		N/A
	Openings dimensions (mm).....:		N/A
6.4.8.3.4	Bottom openings and properties		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Openings dimensions (mm).....:		N/A
	Flammability tests for the bottom of a fire enclosure		N/A
	Instructional Safeguard.....:		N/A
6.4.8.3.5	Side openings and properties		N/A
	Openings dimensions (mm).....:		N/A
6.4.8.3.6	Integrity of a fire enclosure, condition met: a), b) or c)		N/A
6.4.8.4	Separation of a PIS from a fire enclosure and a fire barrier distance (mm) or flammability rating	Fire enclosure is made of V-0 material.	P
6.4.9	Flammability of insulating liquid.....:		N/A
6.5	Internal and external wiring		P
6.5.1	General requirements	Internal wire and output wire provided.	P
6.5.2	Requirements for interconnection to building wiring		N/A
6.5.3	Internal wiring size (mm ²) for socket-outlets.....:		N/A
6.6	Safeguards against fire due to the connection to additional equipment		P

7	INJURY CAUSED BY HAZARDOUS SUBSTANCES	N/A
7.2	Reduction of exposure to hazardous substances	N/A
7.3	Ozone exposure	N/A
7.4	Use of personal safeguards or personal protective equipment (PPE)	N/A
	Personal safeguards and instructions	—
7.5	Use of instructional safeguards and instructions	N/A
	Instructional safeguard (ISO 7010).....:	—
7.6	Batteries and their protection circuits	N/A

8	MECHANICALLY-CAUSED INJURY	P
8.2	Mechanical energy source classifications	P
8.3	Safeguards against mechanical energy sources	P
8.4	Safeguards against parts with sharp edges and corners	P
8.4.1	Safeguards	N/A
	Instructional Safeguard.....:	N/A
8.4.2	Sharp edges or corners	N/A
8.5	Safeguards against moving parts	N/A
8.5.1	Fingers, jewellery, clothing, hair, etc., contact with MS2 or MS3 parts	All models mass <7Kg, classed as MS1.

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Clause	Requirement + Test	Result - Remark	Verdict

	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
	Moving MS3 parts only accessible to skilled person		N/A
8.5.2	Instructional safeguard.....:		N/A
8.5.4	Special categories of equipment containing moving parts		N/A
8.5.4.1	General		N/A
8.5.4.2	Equipment containing work cells with MS3 parts		N/A
8.5.4.2.1	Protection of persons in the work cell		N/A
8.5.4.2.2	Access protection override		N/A
8.5.4.2.2.1	Override system		N/A
8.5.4.2.2.2	Visual indicator		N/A
8.5.4.2.3	Emergency stop system		N/A
	Maximum stopping distance from the point of activation (m).....:		N/A
	Space between end point and nearest fixed mechanical part (mm)		N/A
8.5.4.2.4	Endurance requirements		N/A
	Mechanical system subjected to 100 000 cycles of operation		N/A
	- Mechanical function check and visual inspection		N/A
	- Cable assembly		N/A
8.5.4.3	Equipment having electromechanical device for destruction of media		N/A
8.5.4.3.1	Equipment safeguards		N/A
8.5.4.3.2	Instructional safeguards against moving parts		N/A
8.5.4.3.3	Disconnection from the supply		N/A
8.5.4.3.4	Cut type and test force (N).....:		N/A
8.5.4.3.5	Compliance		N/A
8.5.5	High pressure lamps		N/A
	Explosion test.....:		N/A
8.5.5.3	Glass particles dimensions (mm)		N/A
8.6	Stability of equipment		N/A
8.6.1	General		N/A
	Instructional safeguard.....:		N/A
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.6.2.3	Downward force test		N/A
8.6.3	Relocation stability		N/A
	Wheels diameter (mm)		—
	Tilt test		N/A
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test		N/A
8.7	Equipment mounted to wall, ceiling or other structure		N/A
8.7.1	Mount means type		N/A
8.7.2	Test methods		N/A
	Test 1, additional downwards force (N).....		N/A
	Test 2, number of attachment points and test force (N).....		N/A
	Test 3 Nominal diameter (mm) and applied torque (Nm).....		N/A
8.8	Handles strength		N/A
8.8.1	General		N/A
8.8.2	Handle strength test		N/A
	Number of handles.....		—
	Force applied (N)		—
8.9	Wheels or casters attachment requirements		N/A
8.9.2	Pull test		N/A
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
8.10.3	Cart, stand or carrier loading test		N/A
	Loading force applied (N)		N/A
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Force applied (N)		N/A
8.10.6	Thermoplastic temperature stability		N/A
8.11	Mounting means for slide-rail mounted equipment (SRME)		N/A
8.11.1	General		N/A
8.11.2	Requirements for slide rails		N/A
	Instructional Safeguard		N/A
8.11.3	Mechanical strength test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

8.11.3.1	Downward force test, force (N) applied.....:		N/A
8.11.3.2	Lateral push force test		N/A
8.11.3.3	Integrity of slide rail end stops		N/A
8.11.4	Compliance		N/A
8.12	Telescoping or rod antennas		N/A
	Button/ball diameter (mm)		—

9	THERMAL BURN INJURY	P
9.2	Thermal energy source classifications	P
9.3	Touch temperature limits	P
9.3.1	Touch temperatures of accessible parts	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)
9.3.2	Test method and compliance	P
9.4	Safeguards against thermal energy sources	N/A
9.5	Requirements for safeguards	N/A
9.5.1	Equipment safeguard	N/A
9.5.2	Instructional safeguard.....:	N/A
9.6	Requirements for wireless power transmitters	N/A
9.6.1	General	N/A
9.6.2	Specification of the foreign objects	N/A
9.6.3	Test method and compliance	N/A

10	RADIATION	N/A
10.2	Radiation energy source classification	N/A
10.2.1	General classification	N/A
	Lasers	—
	Lamps and lamp systems.....:	—
	Image projectors	—
	X-Ray	—
	Personal music player	—
10.3	Safeguards against laser radiation	N/A
	The standard(s) equipment containing laser(s) comply	N/A
10.4	Safeguards against optical radiation from lamps and lamp systems (including LED types)	N/A
10.4.1	General requirements	N/A

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

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Clause	Requirement + Test	Result - Remark	Verdict

B	NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS		P
B.1	General		P
B.1.5	Temperature measurement conditions	(See appended table 5.4.1.4, 9.3, B.1.5, B.2.6)	P
B.2	Normal operating conditions		P
B.2.1	General requirements	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers.....		N/A
B.2.3	Supply voltage and tolerances	Rated voltage $\pm 10\%$	P
B.2.5	Input test	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General		P
B.3.2	Covering of ventilation openings		N/A
	Instructional safeguard.....		N/A
B.3.3	DC mains polarity test		N/A
B.3.4	Setting of voltage selector		N/A
B.3.5	Maximum load at output terminals	(See appended table B.3, B.4)	P
B.3.6	Reverse battery polarity		N/A
B.3.7	Audio amplifier abnormal operating conditions		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions	All safeguards remained effective.	P
B.4	Simulated single fault conditions		P
B.4.1	General		P
B.4.2	Temperature controlling device		N/A
B.4.3	Blocked motor test		N/A
B.4.4	Functional insulation	(See appended table B.3, B.4)	P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.3, B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short-circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.3, B.4)	P
B.4.6	Short circuit or disconnection of passive components	(See appended table B.3, B.4)	P
B.4.7	Continuous operation of components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.8	Compliance during and after single fault conditions	(See appended table B.3, B.4)	P
B.4.9	Battery charging and discharging under single fault conditions	(See Annex M)	N/A
C	UV RADIATION		N/A
C.1	Protection of materials in equipment from UV radiation		N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure test		N/A
C.2.4	Xenon-arc light-exposure test		N/A
D	TEST GENERATORS		P
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		P
D.3	Electronic pulse generator		N/A
E	TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS		N/A
E.1	Electrical energy source classification for audio signals		N/A
	Maximum non-clipped output power (W)		—
	Rated load impedance (Ω)		—
	Open-circuit output voltage (V)		—
	Instructional safeguard.....:	See Clause F.5	—
E.2	Audio amplifier normal operating conditions		N/A
	Audio signal source type		—
	Audio output power (W)		—
	Audio output voltage (V)		—
	Rated load impedance (Ω)		—
	Requirements for temperature measurement		N/A
E.3	Audio amplifier abnormal operating conditions		N/A
F	EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS		P
F.1	General		P
	Language	Instructions in English and Germany are provided.	—
F.2	Letter symbols and graphical symbols		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols according to IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	See copy of marking plate	P
F.3.2	Equipment identification markings	See copy of marking plate	P
F.3.2.1	Manufacturer identification	See copy of marking plate	P
F.3.2.2	Model identification	See model list	P
F.3.3	Equipment rating markings	See copy of marking plate	P
F.3.3.1	Equipment with direct connection to mains	See copy of marking plate	P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of the supply voltage	See copy of marking plate	P
F.3.3.4	Rated voltage	See copy of marking plate	P
F.3.3.5	Rated frequency.....	See copy of marking plate	P
F.3.3.6	Rated current or rated power	See copy of marking plate	P
F.3.3.7	Equipment with multiple supply connections		N/A
F.3.4	Voltage setting device		N/A
F.3.5	Terminals and operating devices	See below.	P
F.3.5.1	Mains appliance outlet and socket-outlet markings	No such devices on the equipment.	N/A
F.3.5.2	Switch position identification marking	No such switch on the equipment.	N/A
F.3.5.3	Replacement fuse identification and rating markings	The fuse is located within the equipment and not replaceable by an ordinary person or an instructed person. The fuse is anyway marked with: F1: T2AL or T3.15AL / 250V	P
	Instructional safeguards for neutral fuse.....		N/A
F.3.5.4	Replacement battery identification marking		N/A
F.3.5.5	Neutral conductor terminal		N/A
F.3.5.6	Terminal marking location		N/A
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I equipment		N/A
F.3.6.1.1	Protective earthing conductor terminal		N/A
F.3.6.1.2	Protective bonding conductor terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.2	Equipment class marking.....:	<input checked="" type="checkbox"/>	P
F.3.6.3	Functional earthing terminal marking.....:		N/A
F.3.7	Equipment IP rating marking.....:	IPX0	N/A
F.3.8	External power supply output marking.....:		P
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. And then again for 15 sec. With the cloth soaked with petroleum spirit. After this test there was no damage to the label. The marking on the label did not fade. There was no curling and lifting of the label edge.	P
F.4	Instructions		P
	a) Information prior to installation and initial use		P
	b) Equipment for use in locations where children not likely to be present		N/A
	c) Instructions for installation and interconnection		N/A
	d) Equipment intended for use only in restricted access area		N/A
	e) Equipment intended to be fastened in place		N/A
	f) Instructions for audio equipment terminals		N/A
	g) Protective earthing used as a safeguard		N/A
	h) Protective conductor current exceeding ES2 limits		N/A
	i) Graphic symbols used on equipment		P
	j) Permanently connected equipment not provided with all-pole mains switch		N/A
	k) Replaceable components or modules providing safeguard function		N/A
	l) Equipment containing insulating liquid		N/A
	m) Installation instructions for outdoor equipment		N/A
F.5	Instructional safeguards		N/A
G	COMPONENTS		P
G.1	Switches		N/A
G.1.1	General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.1.3	Test method and compliance		N/A
G.2	Relays		N/A
G.2.1	Requirements		N/A
G.2.2	Overload test		N/A
G.2.3	Relay controlling connectors supplying power to other equipment		N/A
G.2.4	Test method and compliance		N/A
G.3	Protective devices		P
G.3.1	Thermal cut-offs		N/A
	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Test method and compliance		N/A
G.3.2	Thermal links		N/A
G.3.2.1	a) Thermal links tested separately according to IEC 60691 with specifics		N/A
	b) Thermal links tested as part of the equipment		N/A
G.3.2.2	Test method and compliance		N/A
G.3.3	PTC thermistors		N/A
G.3.4	Overcurrent protection devices	Current fuse is complying IEC 60127-1, IEC 60127-3.	P
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.4		N/A
G.3.5.1	Non-resettable devices suitably rated and marking provided		N/A
G.3.5.2	Single faults conditions		N/A
G.4	Connectors		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration.....:	AC plug used.	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
G.5	Wound components		P
G.5.1	Wire insulation in wound components	Approved TIW used for secondary winding of T1.	P
G.5.1.2	Protection against mechanical stress	Insulation margin tape used primary winding and secondary winding where they are crossing.	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.2	Endurance test		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Test time (days per cycle)		—
	Test temperature (°C)		—
G.5.2.3	Wound components supplied from the mains		N/A
G.5.2.4	No insulation breakdown		N/A
G.5.3	Transformers		P
G.5.3.1	Compliance method	The transformer meets the requirements given in G.5.3.2 and G.5.3.3.	P
	Position	T1	P
	Method of protection		P
G.5.3.2	Insulation	Primary windings and secondary windings are separated by Reinforced insulation	P
	Protection from displacement of windings	Bobbin and tape.	—
G.5.3.3	Transformer overload tests	(See appended table B.3)	P
G.5.3.3.1	Test conditions	Transformer is tested in the complete unit.	P
G.5.3.3.2	Winding temperatures		P
G.5.3.3.3	Winding temperatures - alternative test method		N/A
G.5.3.4	Transformers using FIW		N/A
G.5.3.4.1	General		N/A
	FIW wire nominal diameter		—
G.5.3.4.2	Transformers with basic insulation only		N/A
G.5.3.4.3	Transformers with double insulation or reinforced insulation		N/A
G.5.3.4.4	Transformers with FIW wound on metal or ferrite core		N/A
G.5.3.4.5	Thermal cycling test and compliance		N/A
G.5.3.4.6	Partial discharge test		N/A
G.5.3.4.7	Routine test		N/A
G.5.4	Motors		N/A
G.5.4.1	General requirements		N/A
G.5.4.2	Motor overload test conditions		N/A
G.5.4.3	Running overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.4.2	Locked-rotor overload test		N/A
	Test duration (days)		—
G.5.4.5	Running overload test for DC motors		N/A
G.5.4.5.2	Tested in the unit		N/A
G.5.4.5.3	Alternative method		N/A
G.5.4.6	Locked-rotor overload test for DC motors		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature		N/A
G.5.4.6.3	Alternative method		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage		—
G.6	Wire Insulation		P
G.6.1	General	TIW used in the isolating transformer that has separately complied with Annex J.	P
G.6.2	Enamelled winding wire insulation		N/A
G.7	Mains supply cords		N/A
G.7.1	General requirements		N/A
	Type		—
G.7.2	Cross sectional area (mm ² or AWG).....:		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N)		N/A
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm)		--
G.7.3.2.4	Strain relief and cord anchorage material		N/A
G.7.4	Cord Entry		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Test method and compliance		N/A
	Overall diameter or minor overall dimension, D (mm)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Radius of curvature after test (mm)		—
G.7.6	Supply wiring space		N/A
G.7.6.1	General requirements		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Requirements		N/A
G.7.6.2.2	Test with 8 mm strand		N/A
G.8	Varistors		P
G.8.1	General requirements	Approved varistor used. (See appended table 4.1.2)	P
G.8.2	Safeguards against fire		P
G.8.2.1	General		P
G.8.2.2	Varistor overload test	Tested with appliance.	P
G.8.2.3	Temporary overvoltage test		N/A
G.9	Integrated circuit (IC) current limiters		N/A
G.9.1	Requirements		N/A
	IC limiter output current (max. 5A)		—
	Manufacturers' defined drift		—
G.9.2	Test Program		N/A
G.9.3	Compliance		N/A
G.10	Resistors		N/A
G.10.1	General		N/A
G.10.2	Conditioning		N/A
G.10.3	Resistor test		N/A
G.10.4	Voltage surge test		N/A
G.10.5	Impulse test		N/A
G.10.6	Overload test		N/A
G.11	Capacitors and RC units		P
G.11.1	General requirements	Capacitor used in accordance with their rating and complied with subclasses of IEC 60384-14. (see appended table 4.1.2)	P
G.11.2	Conditioning of capacitors and RC units		P
G.11.3	Rules for selecting capacitors		P
G.12	Optocouplers		N/A
	Optocouplers comply with IEC 60747-5-5 with specifics		N/A
	Type test voltage $V_{ini,a}$:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Routine test voltage, $V_{ini, b}$:		—
G.13	Printed boards		P
G.13.1	General requirements	Approved Printed board used	P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation.....:		N/A
	Number of insulation layers (pcs)		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2	Test method and compliance		N/A
G.14	Coating on components terminals		N/A
G.14.1	Requirements		N/A
G.15	Pressurized liquid filled components		N/A
G.15.1	Requirements		N/A
G.15.2	Test methods and compliance		N/A
G.15.2.1	Hydrostatic pressure test		N/A
G.15.2.2	Creep resistance test		N/A
G.15.2.3	Tubing and fittings compatibility test		N/A
G.15.2.4	Vibration test		N/A
G.15.2.5	Thermal cycling test		N/A
G.15.2.6	Force test		N/A
G.15.3	Compliance		N/A
G.16	IC including capacitor discharge function (ICX)		N/A
G.16.1	Condition for fault tested is not required		N/A
	ICX with associated circuitry tested in equipment		N/A
	ICX tested separately		N/A
G.16.2	Tests		N/A
	Smallest capacitance and smallest resistance specified by ICX manufacturer for impulse test:		—
	Mains voltage that impulses to be superimposed on		—
	Largest capacitance and smallest resistance for ICX tested by itself for 10000 cycles test.....:		—
G.16.3	Capacitor discharge test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

H	CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz)		—
H.3.1.2	Voltage (V)		—
H.3.1.3	Cadence; time (s) and voltage (V)		—
H.3.1.4	Single fault current (mA):		—
H.3.2	Tripping device and monitoring voltage		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V)		N/A
J	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		P
J.1	General		P
	Winding wire insulation	Triple insulated wires winding used as reinforced safeguard in the isolating transformer. See table 4.1.2.	—
	Solid round winding wire, diameter (mm)		N/A
	Solid square and rectangular (flatwise bending) winding wire, cross-sectional area (mm ²)		N/A
J.2/J.3	Tests and Manufacturing		—
K	SAFETY INTERLOCKS		N/A
K.1	General requirements		N/A
	Instructional safeguard.....		N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
K.5.1	Under single fault condition		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Test method and compliance.....		N/A
K.7	Interlock circuit isolation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.7.1	Separation distance for contact gaps & interlock circuit elements		N/A
	In circuit connected to mains, separation distance for contact gaps (mm)		N/A
	In circuit isolated from mains, separation distance for contact gaps (mm)		N/A
	Electric strength test before and after the test of K.7.2	(See appended table 5.4.9)	N/A
K.7.2	Overload test, Current (A)		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test		N/A
L	DISCONNECT DEVICES		P
L.1	General requirements	The plug or AC inlet is regarded as disconnect device and it is incorporated with adaptor during normal use.	P
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized	When plug is disconnected no hazardous voltage in the equipment.	P
L.4	Single-phase equipment	Disconnect device disconnects all poles simultaneously.	P
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		P
L.8	Multiple power sources		N/A
	Instructional safeguard.....:		N/A
M	EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS		N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Batteries and their cells comply with relevant IEC standards		N/A
M.3	Protection circuits for batteries provided within the equipment		N/A
M.3.1	Requirements		N/A
M.3.2	Test method		N/A
	Overcharging of a rechargeable battery		N/A
	Excessive discharging		N/A
	Unintentional charging of a non-rechargeable battery		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Reverse charging of a rechargeable battery		N/A
M.3.3	Compliance		N/A
M.4	Additional safeguards for equipment containing a portable secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Requirements		N/A
M.4.2.2	Compliance	:	N/A
M.4.3	Fire enclosure	:	N/A
M.4.4	Drop test of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation and procedure for the drop test		N/A
M.4.4.3	Drop, Voltage on reference and dropped batteries (V); voltage difference during 24 h period (%):		N/A
M.4.4.4	Check of the charge/discharge function		N/A
M.4.4.5	Charge / discharge cycle test		N/A
M.4.4.6	Compliance		N/A
M.5	Risk of burn due to short-circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Test method and compliance		N/A
M.6	Safeguards against short-circuits		N/A
M.6.1	External and internal faults		N/A
M.6.2	Compliance		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
	Calculated hydrogen generation rate.....:		N/A
M.7.2	Test method and compliance		N/A
	Minimum air flow rate, Q (m ³ /h)	:	N/A
M.7.3	Ventilation tests		N/A
M.7.3.1	General		N/A
M.7.3.2	Ventilation test – alternative 1		N/A
	Hydrogen gas concentration (%)	:	N/A
M.7.3.3	Ventilation test – alternative 2		N/A
	Obtained hydrogen generation rate	:	N/A
M.7.3.4	Ventilation test – alternative 3		N/A
	Hydrogen gas concentration (%)	:	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.7.4	Marking		N/A
M.8	Protection against internal ignition from external spark sources of batteries with aqueous electrolyte		N/A
M.8.1	General		N/A
M.8.2	Test method		N/A
M.8.2.1	General		N/A
M.8.2.2	Estimation of hypothetical volume V_z (m^3/s)		—
M.8.2.3	Correction factors.....:		—
M.8.2.4	Calculation of distance d (mm)		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse		N/A
	Instructional safeguard.....:		N/A
N	ELECTROCHEMICAL POTENTIALS		N/A
	Material(s) used		—
O	MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES		P
	Value of X (mm)	Measurement is in accordance with applicable figures.	—
P	SAFEGUARDS AGAINST CONDUCTIVE OBJECTS		P
P.1	General	No opening.	P
P.2	Safeguards against entry or consequences of entry of a foreign object		N/A
P.2.1	General		N/A
P.2.2	Safeguards against entry of a foreign object		N/A
	Location and Dimensions (mm)		—
P.2.3	Safeguards against the consequences of entry of a foreign object		N/A
P.2.3.1	Safeguard requirements		N/A
	The ES3 and PS3 keep-out volume in Figure P.3 not applicable to transportable equipment		N/A
	Transportable equipment with metallized plastic parts		N/A
P.2.3.2	Consequence of entry test		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General		N/A
P.3.2	Determination of spillage consequences		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
P.3.3	Spillage safeguards		N/A
P.3.4	Compliance		N/A
P.4	Metallized coatings and adhesives securing parts		N/A
P.4.1	General		N/A
P.4.2	Tests		N/A
	Conditioning, T _c (°C).....:		—
	Duration (weeks).....:		—
Q	CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING		P
Q.1	Limited power sources		P
Q.1.1	Requirements		P
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output		P
	d) Overcurrent protective device limited output		N/A
	e) IC current limiter complying with G.9		N/A
Q.1.2	Test method and compliance.....:	(See appended table Q.1)	P
	Current rating of overcurrent protective device (A)		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A)		—
	Current limiting method.....:		—
R	LIMITED SHORT CIRCUIT TEST		N/A
R.1	General		N/A
R.2	Test setup		N/A
	Overcurrent protective device for test		—
R.3	Test method		N/A
	Cord/cable used for test		—
R.4	Compliance		N/A
S	TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm).....:		—
	Conditioning (°C).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
S.3	Flammability test for the bottom of a fire enclosure		N/A
S.3.1	Mounting of samples		N/A
S.3.2	Test method and compliance		N/A
	Mounting of samples		—
	Wall thickness (mm).....		—
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power exceeding 4 000 W		N/A
	Samples, material		—
	Wall thickness (mm).....		—
	Conditioning (°C).....		—
T	MECHANICAL STRENGTH TESTS		P
T.1	General		P
T.2	Steady force test, 10 N	(See appended table T.2, T.3, T.4, T.5)	P
T.3	Steady force test, 30 N		N/A
T.4	Steady force test, 100 N	(See appended table T.2, T.3, T.4, T.5)	P
T.5	Steady force test, 250 N	(See appended table T.6)	P
T.6	Enclosure impact test		P
	Fall test		P
	Swing test		P
T.7	Drop test	(See appended table T.7)	P
T.8	Stress relief test	(See appended table T.8)	P
T.9	Glass Impact Test.....		N/A
T.10	Glass fragmentation test		N/A
	Number of particles counted		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm)		N/A
U	MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		N/A
U.1	General		N/A
	Instructional safeguard :		N/A
U.2	Test method and compliance for non-intrinsically protected CRTs		N/A
U.3	Protective screen		N/A
V	DETERMINATION OF ACCESSIBLE PARTS		P
V.1	Accessible parts of equipment		P
V.1.1	General		P
V.1.2	Surfaces and openings tested with jointed test probes		P
V.1.3	Openings tested with straight unjointed test probes		P
V.1.4	Plugs, jacks, connectors tested with blunt probe		N/A
V.1.5	Slot openings tested with wedge probe		N/A
V.1.6	Terminals tested with rigid test wire		N/A
V.2	Accessible part criterion		P
X	ALTERNATIVE METHOD FOR DETERMINING CLEARANCES FOR INSULATION IN CIRCUITS CONNECTED TO AN AC MAINS NOT EXCEEDING 420 V PEAK (300 V RMS)		N/A
	Clearance		N/A
Y	CONSTRUCTION REQUIREMENTS FOR OUTDOOR ENCLOSURES		N/A
Y.1	General		N/A
Y.2	Resistance to UV radiation		N/A
Y.3	Resistance to corrosion		N/A
Y.3	Resistance to corrosion		N/A
Y.3.1	Metallic parts of outdoor enclosures are resistant to effects of water-borne contaminants by.....:		N/A
Y.3.2	Test apparatus		N/A
Y.3.3	Water – saturated sulphur dioxide atmosphere		N/A
Y.3.4	Test procedure		N/A
Y.3.5	Compliance		N/A
Y.4	Gaskets		N/A
Y.4.1	General		N/A
Y.4.2	Gasket tests		N/A
Y.4.3	Tensile strength and elongation tests		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Alternative test methods		N/A
Y.4.4	Compression test		N/A
Y.4.5	Oil resistance		N/A
Y.4.6	Securing means		N/A
Y.5	Protection of equipment within an outdoor enclosure		N/A
Y.5.1	General		N/A
Y.5.2	Protection from moisture		N/A
	Relevant tests of IEC 60529 or Y.5.3.....:		N/A
Y.5.3	Water spray test		N/A
Y.5.4	Protection from plants and vermin		N/A
Y.5.5	Protection from excessive dust		N/A
Y.5.5.1	General		N/A
Y.5.5.2	IP5X equipment		N/A
Y.5.5.3	IP6X equipment		N/A
Y.6	Mechanical strength of enclosures		N/A
Y.6.1	General		N/A
Y.6.2	Impact test.....:		N/A

IEC 62368-1									
Clause	Requirement + Test		Result - Remark			Verdict			
5.2	TABLE: Classification of electrical energy sources					P			
5.2.2.2 – Steady State Voltage and Current conditions									
Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class			
			U (V)	I (mA)	Type ¹⁾				
Model: DYS830-300100W-2									
264V _{a.c.} , 60Hz	Primary circuits supplied by a.c. mains supply	Normal	264V _{rms}	--	SS	60	ES3		
		Abnormal (see table B.3)	--	--	--	--			
		Single fault (see table B.4)	--	--	--	--			
264V _{a.c.} , 60Hz	Output "+" to "-"	Normal	31.7V _{dc}	--	SS	DC	ES1		
		Abnormal: over load	31.7V _{dc}	--	SS	DC			
		Single fault – R6 SC	0V	--	--	--			
		Single fault – U2 pin 1-2 SC	0V	--	--	--			
		Single fault – U2 pin 3-4 SC	0V	--	--	--			
		Single fault – U2 pin 1 OC	0V	--	--	--			
		Single fault – U2 pin 3 OC	0V	--	--	--			
264V _{a.c.} , 60Hz	Between "L" to "N"	Normal	396V _{pk}	--	SS	60	ES3		
		Abnormal (see table B.3)	--	--	--	--			
		Single fault (see table B.4)	--	--	--	--			
Supplementary information:									
1) Type: Steady state (SS), Capacitance (CP), Single pulse (SP), Repetitive pulses (RP), etc.									
2) Additional Info: Frequency, Pulse duration, Pulse off time, Capacitance value, etc.									
3) SC = Short-circuited, OC = Open-circuited									
4) Overall capacity: XC1=0.22μF.									

5.4.1.8	TABLE: Working voltage measurement				P
Location	RMS voltage (V)	Peak voltage (V)	Frequency (Hz)	Comments	
Model: DYS830-060400W-2					
Transformer pin 1-6	170	360	61.25k	--	

IEC 62368-1				
Clause	Requirement + Test	Result - Remark		Verdict
Transformer pin 2-6	173	420	61.25k	--
Transformer pin 4-6	313	564	61.25k	Max. Vrms and Vpeak.
Transformer pin 5-6	258	376	61.25k	--
Transformer pin 1-7	169	344	61.25k	--
Transformer pin 2-7	171	396	61.25k	--
Transformer pin 4-7	307	552	61.25k	--
Transformer pin 5-7	260	364	61.25k	--
Opto-coupler U2 pin 1-3	169	344	0.06k	--
Opto-coupler U2 pin 1-4	169	340	0.06k	--
Opto-coupler U2 pin 2-3	169	344	0.06k	--
Opto-coupler U2 pin 2-4	167	340	0.06k	--
YC1 primary to secondary	165	340	0.06k	--
Model: DYS830-120250W-2				
Transformer pin 1-6	175	392	61.17K	--
Transformer pin 2-6	181	460	61.17K	--
Transformer pin 4-6	309	548	61.17K	Max. Vrms and Vpeak.
Transformer pin 5-6	252	372	61.17K	--
Transformer pin 1-7	174	348	61.17K	--
Transformer pin 2-7	178	420	61.17K	--
Transformer pin 4-7	301	516	61.17K	--
Transformer pin 5-7	251	356	61.17K	--
Opto-coupler U2 pin 1-3	174	352	0.06k	--
Opto-coupler U2 pin 1-4	172	348	0.06k	--
Opto-coupler U2 pin 2-3	173	348	0.06k	--
Opto-coupler U2 pin 2-4	171	344	0.06k	--
YC1 primary to secondary	166	340	0.06k	--
Model: DYS830-191157W-2				
Transformer pin 1-6	176	400	61.36K	--
Transformer pin 2-6	180	452	61.36K	--
Transformer pin 4-6	305	576	61.36K	Max. Vrms and Vpeak.
Transformer pin 5-6	253	372	61.36K	--
Transformer pin 1-7	174	356	61.36K	--
Transformer pin 2-7	176	404	61.36K	--

IEC 62368-1				
Clause	Requirement + Test	Result - Remark		Verdict
Transformer pin 4-7	301	524	61.36K	--
Transformer pin 5-7	252	356	61.36K	--
Opto-coupler U2 pin 1-3	174	356	0.06k	--
Opto-coupler U2 pin 1-4	172	352	0.06k	--
Opto-coupler U2 pin 2-3	173	352	0.06k	--
Opto-coupler U2 pin 2-4	172	352	0.06k	--
YC1 primary to secondary	164	340	0.06k	--
Model: DYS830-300100W-2				
Transformer pin 1-6	187	452	61.32K	--
Transformer pin 2-6	192	500	61.32K	--
Transformer pin 4-6	303	576	61.32K	Max. Vrms and Vpeak.
Transformer pin 5-6	243	372	61.32K	--
Transformer pin 1-7	185	372	61.32K	--
Transformer pin 2-7	186	420	61.32K	--
Transformer pin 4-7	297	516	61.32K	--
Transformer pin 5-7	238	340	61.32K	--
Opto-coupler U2 pin 1-3	184	372	0.06k	--
Opto-coupler U2 pin 1-4	182	368	0.06k	--
Opto-coupler U2 pin 2-3	183	372	0.06k	--
Opto-coupler U2 pin 2-4	182	368	0.06k	--
YC1 primary to secondary	165	340	0.06k	--
Supplementary information:				
Test voltage: 240 V, Frequency: 60Hz				

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

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics	P
Allowed impression diameter (mm)	≤ 2 mm	—

IEC 62368-1				
Clause	Requirement + Test	Result - Remark		Verdict
Object/Part No./Material	Manufacturer/trademark	Thickness (mm)	Test temperature (°C)	Impression diameter (mm)
Plug holder (for US/JP plug) / 940(f1)(gg*)	SABIC INNOVATIVE PLASTICS US L L C	2.5	125	1.04
Plug holder (for US/JP plug) / 945 (GG)	SABIC JAPAN L L C	2.5	125	0.95
Plug holder / FR6	SABIC INNOVATIVE PLASTICS US L L C	2.5	125	0.99
Material of AC connector / TE250F8(h1)(j)	DSM ENGINEERING PLASTICS B V	2.5	125	0.93
Supplementary information:				
The bobbin material of transformer (T1) is phenolic, no test is needed.				

5.4.2, 5.4.3 TABLE: Minimum Clearances/Creepage distance								P
Clearance (cl) and creepage distance (cr) at/of/between:	U _p (V)	U _{rms} (V)	Freq ¹⁾ (Hz)	Required cl (mm)	cl (mm)	E.S. ²⁾ (V)	Required cr (mm)	cr (mm)
For model DYS830-xyW-z								
L to primary circuit after fuse F1 (EU plug type) (B)	420	250	60	1.5*1.48= 2.3	9.6	--	2.5	9.6
L to primary circuit after fuse F1 (UK plug type) (B)	420	250	60	1.5*1.48= 2.3	7.1	--	2.5	7.1
L to primary circuit after fuse F1 (AU plug type) (B)	420	250	60	1.5*1.48= 2.3	6.5	--	2.5	6.5
L to primary circuit after fuse F1 (JP/US plug type) (B)	420	250	60	1.5*1.48= 2.3	5.0	--	2.5	5.0
Primary component (C1, C2, XC1) to accessible enclosure (all fixed plug) (R)	420	250	60	3.0*1.48= 4.5	6.6	--	5.0	6.6
L, N to accessible enclosure for all detachable plug (R)	420	250	60	3.0*1.48= 4.5	6.2	--	5.0	6.2
For model DYS830-xyW								
Primary component (C3, F1) to accessible enclosure (R)	420	250	60	3.0*1.48= 4.5	6.4	--	5.0	6.4
For all models								
L, N trace before Fuse (B)	420	250	60	1.5*1.48= 2.3	3.1	--	2.5	3.1

IEC 62368-1								
Clause	Requirement + Test			Result - Remark			Verdict	
Two pins of Fuse (B)	420	250	60	1.5*1.48= 2.3	3.0	--	2.5	3.0
L to primary circuit after fuse F1 (B)	420	250	60	1.5*1.48= 2.3	3.3	--	2.5	3.3
Primary circuit to secondary circuit (PCB under YC1) (R)	420	250	60	3.0*1.48= 4.5	6.7	--	5.0	6.7
Primary circuit to secondary circuit (PCB under U2) (R)	420	250	60	3.0*1.48= 4.5	6.8	--	5.0	6.8
Primary circuit to secondary circuit (PCB under T1) (R)	576	313	61.36k	3.0*1.48= 4.5	8.1	--	6.4	8.1
Transformer primary winding to secondary winding/secondary pin (R)	576	313	61.36k	3.0*1.48= 4.5	7.1	--	6.4	7.1
Transformer core to secondary winding/secondary pin (R)	576	313	61.36k	3.0*1.48= 4.5	7.5	--	6.4	7.5
Transformer core to Secondary component (D3 and U4 trace) (R)	576	313	61.36k	3.0*1.48= 4.5	7.1	--	6.4	7.1
Transformer core to component (U2 sec. pin) (R)	576	313	61.36k	3.0*1.48= 4.5	7.2	--	6.4	7.2
Supplementary information: B=Basic insulation, S=Supplementary insulation, R= Reinforce insulation.								
1. Unless otherwise specified, the worst conditions of Cl. & Cr. in above mentioned locations have been considered and listed. 2. Triple insulated wire used in secondary side. Core of transformer is considered as primary. 3. Line chock, transformer, internal wire are additional fixed by glue. 4. The equipment was evaluated for a maximum operating altitude of 5000 m. Therefore the requirements for clearances were considered and the required clearance was multiplied with an altitude correction factor of 1.48. 1) Only for frequency above 30 kHz 2) Complete Electric Strength voltage (E.S. (V) when 5.4.2.4 applied)								

5.4.4.2	TABLE: Minimum distance through insulation				P
Distance through insulation (DTI) at/of	Peak voltage (V)	Insulation	Required DTI (mm)	Measured DTI (mm)	
Enclosure	420	Reinforced insulation	Min. 0.4	1)	
Opto-coupler	420	Reinforced	Min. 0.4	1)	

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Clause	Requirement + Test	Result - Remark		Verdict
Bobbin	576	Reinforced insulation	Min. 0.4	1)
Insulation tape	576	Reinforced insulation	Min. 2 layers	Min. 2 layers
Supplementary information:				
1): See appended table 4.1.2.				

5.4.4.9	TABLE: Solid insulation at frequencies >30 kHz						P
Insulation material	E_P	Frequency (kHz)	K_R	Thickness d (mm)	Insulation	V_{PW} (Vpk)	
Bobbin (transformer used) (Phenolic)	17	61.36	0.71	0.51	Reinforced	576	
Insulation tape wrapped transformer (Polyethylene)	--	61.36	0.46	Min. 2 layers	Reinforced	576	
Supplementary information:							
According to table 5.4.9 and 5.4.4.9, electric strength test voltage of clause 5.4.9 were more than requirement of clause 5.4.4.9. Details see table 5.4.9.							
For Bobbin: $1.2 \times 2 \times V_{PW} / K_R = 1.2 \times 2 \times 576 / 0.71 = 1948 \text{ V} < 4000 \text{ Vdc}$							
For Insulation tape: $1.2 \times 2 \times V_{PW} / K_R = 1.2 \times 2 \times 576 / 0.46 = 3006 \text{ V} < 4000 \text{ Vdc}$							
All electric strength requirement covered by table 5.4.9 test.							

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:	Voltage shape (Surge, Impulse, AC, DC, etc.)	Test voltage (V)	Breakdown Yes / No	
Basic/supplementary:				
L and N of input (with Fuse opened)	DC	2500	No	
Insulation sheet	DC	2500	No	
Reinforced:				
Unit: primary to secondary	DC	4000	No	
Unit: primary and plastic enclosure wrapped with metal foil	DC	4000	No	
Primary winding to secondary winding of transformer	DC	4000	No	
Core to secondary winding of transformer	DC	4000	No	
One layer of insulation tape	DC	4000	No	
Supplementary information:				
Core of transformer was considered as primary.				

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

5.5.2.2	TABLE: Stored discharge on capacitors					P
Location	Supply voltage (V)	Operating and fault condition ¹⁾	Switch position	Measured voltage (Vpk)	ES Class	
Phase to Neutral	264Vac, 60Hz	N	--	20	ES1	
Phase to Neutral	264Vac, 60Hz	S (R1 open)	--	44	ES1	
Supplementary information:						
Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth X-capacitors installed for testing are: XC1=0.22μF; <input checked="" type="checkbox"/> bleeding resistor rating: R1=R2=R3=R4=3.0 Mohm; <input type="checkbox"/> ICX: 1) Normal operating condition (e.g., normal operation, or open fuse), SC= short circuit, OC= open circuit						

5.6.6	TABLE: Resistance of protective conductors and terminations					N/A
Location	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)		
--	--	--	--	--	--	
Supplementary information:						
--						

5.7.4	TABLE: Unearthed accessible parts					P
Location	Operating and fault conditions	Supply Voltage (V)	Parameters			ES class
			Voltage (V _{rms} or V _{pk})	Current (A _{rms} or A _{pk})	Freq. (Hz)	
Sec. output "+/-" to earth	Normal	264Vac	--	0.116mApk	60	ES1
	Abnormal: over load		--	0.116mApk	60	
	Single fault – R6 SC		--	0.164mApk	60	
	Single fault – U2 pin 1-2 SC		--	0.116mApk	60	
	Single fault – U2 pin 3-4 SC		--	0.116mApk	60	
	Single fault – U2 pin 1 OC		--	0.116mApk	60	
	Single fault – U2 pin 3 OC		--	0.116mApk	60	
Sec. enclosure to	Normal	264Vac	--	0.046mApk	60	ES1

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Clause	Requirement + Test		Result - Remark			Verdict		
earth	Abnormal: over load		--	0.046mApk	60			
	Single fault – R6 SC		--	0.058mApk	60			
	Single fault – U2 pin 1-2 SC		--	0.046mApk	60			
	Single fault – U2 pin 3-4 SC		--	0.046mApk	60			
	Single fault – U2 pin 1 OC		--	0.046mApk	60			
	Single fault – U2 pin 3 OC		--	0.046mApk	60			
Supplementary information:								
Abbreviation: SC= short circuit; OC= open circuit								

5.7.5	TABLE: Earthed accessible conductive part	N/A
Supply voltage (V)	--	—
Phase(s)	[] Single Phase; [] Three Phase: [] Delta [] Wye	--
Power Distribution System	<input type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT	--
Location	Fault Condition No in IEC 60990 clause 6.2.2	Touch current (mA)
--	--	--
Supplementary Information:		
--	--	--

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

6.2.2	TABLE: Power source circuit classifications	P				
Location	Operating and fault condition	Voltage (V)	Current (A)	Max. Power ¹⁾ (W)	Time (S)	PS class
Model: DYS830-050400W-2						
Output	Normal condition	4.48	7.30	32.7	5	PS2
	*U2 pin 2-1 SC	0	0	0	3	PS1

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Clause	Requirement + Test		Result - Remark		Verdict	
	*U2 pin 3-4 SC	0	0	0	3	PS1
	*U2 pin 1 OC	0	0	0	3	PS1
	*U2 pin 3 OC	0	0	0	3	PS1
	**R6 SC	0	0	0	3	PS1
Model: DYS830-060400W-2						
Output	Normal condition	5.47	4.91	26.85	5	PS2
	*U2 pin 2-1 SC	0	0	0	3	PS1
	*U2 pin 3-4 SC	0	0	0	3	PS1
	*U2 pin 1 OC	0	0	0	3	PS1
	*U2 pin 3 OC	0	0	0	3	PS1
	**R6 SC	0	0	0	3	PS1
Model: DYS830-120250W-2						
Output	Normal condition	11.90	3.10	36.89	5	PS2
	*U2 pin 2-1 SC	0	0	0	3	PS1
	*U2 pin 3-4 SC	0	0	0	3	PS1
	*U2 pin 1 OC	0	0	0	3	PS1
	*U2 pin 3 OC	0	0	0	3	PS1
	**R6 SC	0	0	0	3	PS1
Model: DYS830-191157W-2						
Output	Normal condition	18.75	2.04	38.3	5	PS2
	*U2 pin 2-1 SC	0	0	0	3	PS1
	*U2 pin 3-4 SC	0	0	0	3	PS1
	*U2 pin 1 OC	0	0	0	3	PS1
	*U2 pin 3 OC	0	0	0	3	PS1
	**R6 SC	0	0	0	3	PS1
Model: DYS830-300100W-2						
Output	Normal condition	30.98	1.37	42.44	5	PS2
	*U2 pin 2-1 SC	0	0	0	3	PS1
	*U2 pin 3-4 SC	0	0	0	3	PS1
	*U2 pin 1 OC	0	0	0	3	PS1
	*U2 pin 3 OC	0	0	0	3	PS1
	**R6 SC	0	0	0	3	PS1
Supplementary information:						
Abbreviation: SC= short circuit; OC= open circuit						
1) Measured after 3 s for PS1 and measured after 5 s for PS2 and PS3.						
*: Unit shutdown immediately, recoverable, no hazard.						

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

**: Fuse F1 opened immediately, no hazard.

6.2.3.1	TABLE: Determination of Arcing PIS				P
Location	Open circuit voltage after 3 s (Vpk)	Measured r.m.s current (A)	Calculated value	Arcing PIS? Yes / No	
See below	--	--	--	--	--
Supplementary information:					
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15.					

6.2.3.2	TABLE: Determination of resistive PIS				P
Location	Operating and fault condition	Dissipate power (W)	Arcing PIS? Yes / No		
All internal circuits /components	--	--	--	Yes (Declaration)	
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit					

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

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

5.4.1.4, 9.3, B.1.5, B.2.6	TABLE: Temperature measurements					P
Supply voltage (V)	90Vac, 60Hz		264Vac, 50Hz		—	
Supply voltage (V)	90Vac, 60Hz		264Vac, 50Hz		—	

IEC 62368-1					
Clause	Requirement + Test	Result - Remark			Verdict
Ambient temperature during test T_{amb} (°C) :	--	--	--	--	--
Maximum measured temperature T of part/at:	T (°C)			Allowed T_{max} (°C)	
Model: DYS830-060400W-2 (PCB layout DYS830A-P01)	Horizontal	Vertical	Horizontal	Vertical	--
Plug holder	49.5	49.7	48.7	48.7	Ref.
Input wire	58.2	57.2	53.5	53.9	80
AC Connector CN1	62.0	59.7	55.2	55.7	Ref.
Varistor ZR1 body	76.1	70.5	62.7	63.2	85
X-capacitor XC1 body	74.5	70.8	61.0	61.7	100
Line choke NF1 winding	95.5	93.0	67.9	68.6	130
PCB near DB1	101.3	98.0	70.5	71.4	130
E-capacitor C2 body	87.9	85.6	71.6	72.0	105
PCB near Q1	105.8	102.0	88.5	88.9	130
PCB near U1	96.0	92.0	84.1	84.5	130
Transformer T1 winding	99.6	98.4	96.9	97.0	110
Transformer T1 core	96.8	94.8	92.5	92.8	110
Y-capacitor YC1 body	93.8	92.3	89.3	89.4	125
Opto-coupler U2 body	87.5	85.0	81.9	82.0	100
PCB near U4	107.6	105.3	101.5	101.1	130
E-capacitor C5 body	96.9	97.1	94.6	94.9	105
Line choke NF2 winding	100.4	100.3	98.6	98.6	130
Output Connector CN2	89.5	89.4	88.0	88.0	Ref.
Output wire	71.6	72.3	71.5	71.4	80
Plastic enclosure inside near T1	72.1	70.1	69.9	69.8	120
Ambient	45.5	45.5	45.2	45.2	--
Model: DYS830-060400W-2(PCB layout DYS830A-P01)					
Plastic enclosure outside near T1	44.8	43.2	43.1	42.9	77
Ambient	25.0	25.0	25.0	25.0	--
Model: DYS830-120250W-2(PCB layout DYS830A-P01)					
Plug holder	52.4	57.7	51.9	52.4	Ref.
Input wire	66.5	70.4	58.7	59.4	80
AC Connector CN1	72.1	75.4	61.2	61.7	Ref.
Varistor ZR1 body	80.6	81.9	65.5	65.5	85
X-capacitor XC1 body	89.4	90.5	67.9	67.5	100
Line choke NF1 winding	116.9	118.9	72.5	72.5	130

IEC 62368-1					
Clause	Requirement + Test	Result - Remark		Verdict	
PCB near DB1	112.5	116.1	73.4	73.6	130
E-capacitor C2 body	100.5	103.9	72.9	72.4	105
PCB near Q1	112.8	113.4	86.5	85.4	130
PCB near U1	101.0	101.8	84.5	83.6	130
Transformer T1 winding	101.9	105.6	93.1	94.9	110
Transformer T1 core	97.8	99.1	88.6	90.5	110
Y-capacitor YC1 body	92.5	96.3	84.3	83.4	125
Opto-coupler U2 body	86.9	88.1	79.0	77.4	100
PCB near U4	93.8	96.6	88.5	87.1	130
E-capacitor C5 body	83.1	86.1	80.5	79.0	105
Line choke NF2 winding	81.3	84.5	79.5	78.5	130
Output Connector CN2	76.1	79.3	74.9	73.5	Ref.
Output wire	68.4	73.1	68.0	68.0	80
Plastic enclosure inside near T1	79.6	83.1	74.0	76.8	120
Plastic enclosure inside near NF1	88.5	89.7	61.2	60.9	120
Ambient	45.7	45.5	45.5	45.7	--
Model: DYS830-120250W-2 (PCB layout DYS830A-P01)					
Plastic enclosure outside near T1	51.9	54.9	46.0	48.4	77
Plastic enclosure inside near NF1	60.8	61.3	36.9	36.3	77
Ambient	25.0	25.0	25.0	25.0	--
Model: DYS830-120250W-2 (PCB layout DYS830B-P01)					
PCB near D3	91.5	94.1	85.8	84.6	77
Ambient	45.5	45.5	45.7	45.5	--
Model: DYS830-191157W-2(PCB layout DYS830B-P01)					
Plug holder	49.5	51.0	49.2	49.2	Ref.
Input wire	59.7	61.7	55.2	55.7	80
AC Connector CN1	72.0	71.1	61.9	62.0	Ref.
Varistor ZR1 body	75.0	74.5	63.0	63.5	85
X-capacitor XC1 body	77.8	77.4	63.9	64.3	100
Line choke NF1 winding	99.3	99.4	69.6	70.3	130
PCB near DB1	101.5	100.3	72.5	72.9	130
E-capacitor C2 body	95.5	95.4	75.4	75.6	105
PCB near Q1	110.0	108.8	90.5	90.8	130
PCB near U1	100.5	100.0	86.5	86.6	130
Transformer T1 winding	102.4	103.1	98.5	98.8	110
Transformer T1 core	101.8	102.0	98.3	98.6	110

IEC 62368-1					
Clause	Requirement + Test	Result - Remark		Verdict	
Y-capacitor YC1 body	91.3	90.4	84.4	84.6	125
Opto-coupler U2 body	84.0	84.0	78.5	78.5	100
PCB near D3	109.9	108.0	106.9	106.0	130
E-capacitor C5 body	89.6	89.0	89.0	88.0	105
Line choke NF2 winding	82.5	81.0	79.9	80.9	130
Output Connector CN2	73.6	73.5	72.4	73.4	Ref.
Output wire	67.5	66.0	65.5	65.8	80
Plastic enclosure inside near T1	82.0	81.0	78.0	78.5	120
Ambient	45.5	45.7	45.2	45.2	--
Model: DYS830-191157W-2(PCB layout DYS830B-P01)					
Plastic enclosure outside near T1	54.5	51.1	50.7	51.8	77
Ambient	25.0	25.0	25.0	25.0	--
Model: DYS830-300100W-2 (PCB layout DYS830B-P01)					
Plug holder	49.8	49.2	47.9	48.7	Ref.
Input wire	66.0	62.4	55.7	54.5	80
AC Connector CN1	64.3	61.0	55.0	53.7	Ref.
Varistor ZR1 body	82.3	78.6	64.8	61.5	85
X-capacitor XC1 body	88.6	82.4	65.5	62.5	100
Line choke NF1 winding	114.6	112.2	71.0	68.8	130
PCB near DB1	112.9	107.6	75.3	73.0	130
E-capacitor C2 body	98.1	96.0	69.6	68.4	105
PCB near Q1	114.2	111.6	93.6	91.5	130
PCB near U1	105.7	104.5	84.5	82.5	130
Transformer T1 winding	100.6	101.6	93.3	95.3	110
Transformer T1 core	99.1	100.3	92.8	95.0	110
Y-capacitor YC1 body	95.0	96.5	88.0	89.4	125
Opto-coupler U2 body	84.7	86.0	76.0	77.0	100
PCB near D3	99.4	101.0	98.9	100.6	130
E-capacitor C5 body	79.1	80.6	77.9	80.0	105
Line choke NF2 winding	72.7	74.0	71.1	73.3	130
Output Connector CN2	72.0	73.3	70.1	72.3	Ref.
Output wire	62.6	63.5	61.2	63.0	80
Plastic enclosure inside near T1	82.6	83.4	77.0	80.1	120
Ambient	45.5	45.0	45.0	45.0	--
Model: DYS830-300100W-2 (PCB layout DYS830B-P01)					
Plastic enclosure outside near T1	54.8	55.7	49.3	52.8	77

IEC 62368-1					
Clause	Requirement + Test	Result - Remark		Verdict	
Ambient	25.0	25.0	25.0	25.0	--
--	Label down	Label up	Label down	Label up	--
Model: DYS830-060400W (PCB layout DYS830A-P01)					
AC Inlet	64.2	62.9	56.5	55.8	70
Input wire	67.4	65.6	58.8	57.8	80
AC Connector CN1	75.5	77.1	64.0	64.8	Ref.
Varistor ZR1 body	79.1	80.6	65.8	66.7	85
X-capacitor XC1 body	88.1	88.1	68.4	68.7	100
Line choke NF1 winding	105.8	107.2	72.0	72.3	130
PCB near DB1	99.4	100.2	72.2	72.5	130
E-capacitor C2 body	97.6	97.1	72.3	72.1	105
PCB near Q1	103.6	104.4	86.1	86.6	130
PCB near U1	97.6	98.0	85.7	85.8	130
Transformer T1 winding	101.6	100.7	95.8	94.6	110
Transformer T1 core	95.4	95.2	89.5	89.0	110
Y-capacitor YC1 body	91.4	93.1	85.9	86.9	125
Opto-coupler U2 body	89.5	90.7	83.9	84.8	100
PCB near U4	103.1	104.0	96.5	96.7	130
E-capacitor C5 body	98.8	99.6	93.2	93.5	105
Line choke NF2 winding	109.6	112.4	105.4	108.0	130
Output Connector CN2	76.6	80.0	73.6	77.0	Ref.
Output wire	69.8	76.2	68.1	74.8	80
Plastic enclosure inside near T1	80.7	80.5	75.8	75.3	120
Ambient	45.7	45.5	45.8	45.7	--
Model: DYS830-060400W (PCB layout DYS830A-P01)					
Plastic enclosure outside near T1	52.5	52.9	48.7	47.5	77
Ambient	25.0	25.0	25.0	25.0	--
Model: DYS830-120250W (PCB layout DYS830A-P01)					
AC Inlet	61.0	57.7	52.0	50.8	70
Input wire	72.3	64.9	58.9	55.5	80
AC Connector CN1	79.3	70.4	62.5	58.0	Ref.
Varistor ZR1 body	82.2	76.1	66.1	60.8	85
X-capacitor XC1 body	88.0	77.3	65.5	60.6	100
Line choke NF1 winding	110.5	99.8	68.8	63.9	130
PCB near DB1	108.5	97.3	70.5	65.1	130

IEC 62368-1					
Clause	Requirement + Test	Result - Remark		Verdict	
E-capacitor C2 body	97.4	86.3	68.0	62.9	105
PCB near Q1	105.4	87.6	82.0	72.6	130
PCB near U1	98.4	82.3	80.0	71.0	130
Transformer T1 winding	98.0	88.9	88.5	83.1	110
Transformer T1 core	93.1	86.6	83.8	80.8	110
Y-capacitor YC1 body	85.3	79.8	76.5	73.9	125
Opto-coupler U2 body	83.8	74.6	74.9	69.3	100
PCB near U4	85.3	80.4	80.4	77.5	130
E-capacitor C5 body	79.5	75.3	75.1	72.8	105
Line choke NF2 winding	81.3	77.0	77.3	74.7	130
Output Connector CN2	74.5	71.5	71.0	69.7	Ref.
Output wire	68.0	66.9	65.5	65.7	80
Plastic enclosure inside near T1	78.3	76.5	71.6	71.7	120
Ambient	45.7	45.5	45.5	45.5	--
Model: DYS830-120250W (PCB layout DYS830A-P01)					
Plastic enclosure outside near T1	51.9	49.7	44.4	44.8	77
Ambient	25.0	25.0	25.0	25.0	--
Model: DYS830-120250W (PCB layout DYS830B-P01)					
PCB near D3	82.3	77.6	77.7	74.8	130
Ambient	45.7	45.5	45.5	45.5	--
Model: DYS830-191157W (PCB layout DYS830B-P01)					
AC Inlet	63.4	60.9	52.0	51.5	70
Input wire	75.5	70.9	57.1	56.5	80
AC Connector CN1	70.5	69.9	56.8	57.5	Ref.
Varistor ZR1 body	81.9	80.6	62.5	62.2	85
X-capacitor XC1 body	90.3	84.9	63.4	62.6	100
Line choke NF1 winding	116.0	108.5	68.6	67.1	130
PCB near DB1	115.0	107.9	70.4	68.4	130
E-capacitor C2 body	100.1	92.0	68.3	65.5	105
PCB near Q1	113.3	101.7	83.1	78.5	130
PCB near U1	105.9	96.6	81.1	77.5	130
Transformer T1 winding	105.0	102.4	92.6	89.9	110
Transformer T1 core	102.6	99.5	91.0	88.0	110
Y-capacitor YC1 body	93.3	87.8	82.5	79.3	125
Opto-coupler U2 body	82.6	81.1	72.6	72.6	100
PCB near D3	101.1	94.1	94.9	90.0	130

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Clause	Requirement + Test		Result - Remark		Verdict		
E-capacitor C5 body	82.8	79.2	78.0	75.8	105		
Line choke NF2 winding	76.0	74.0	71.9	70.9	130		
Output Connector CN2	69.3	68.5	65.5	65.5	Ref.		
Output wire	63.5	63.9	61.2	61.9	80		
Plastic enclosure inside near T1	83.6	81.1	75.5	74.4	120		
Ambient	45.7	45.7	45.5	45.7	--		
Model: DYS830-191157W (PCB layout DYS830B-P01)							
Plastic enclosure outside near T1	56.5	54.1	48.1	46.8	77		
Ambient	25.0	25.0	25.0	25.0	--		
Model: DYS830-300100W (PCB layout DYS830B-P01)							
AC Inlet	60.9	60.7	53.0	52.7	70		
Input wire	74.8	68.5	59.0	56.4	80		
AC Connector CN1	70.5	70.0	58.9	58.7	Ref.		
Varistor ZR1 body	82.3	80.0	65.3	63.9	85		
X-capacitor XC1 body	89.2	85.4	66.5	64.6	100		
Line choke NF1 winding	114.8	109.1	72.5	69.6	130		
PCB near DB1	110.5	104.5	73.9	70.4	130		
E-capacitor C2 body	96.2	88.3	70.1	66.0	105		
PCB near Q1	111.1	102.0	85.9	80.0	130		
PCB near U1	106.1	97.5	85.5	79.6	130		
Transformer T1 winding	100.7	95.1	92.7	88.3	110		
Transformer T1 core	100.0	93.9	92.6	87.7	110		
Y-capacitor YC1 body	87.2	85.0	80.3	77.8	125		
Opto-coupler U2 body	81.2	79.5	75.0	73.4	100		
PCB near D3	90.6	86.6	90.3	85.8	130		
E-capacitor C5 body	77.7	74.8	77.8	74.3	105		
Line choke NF2 winding	72.9	69.2	73.3	74.3	130		
Output Connector CN2	64.6	64.0	63.5	62.8	Ref.		
Output wire	63.4	63.2	62.7	62.4	80		
Plastic enclosure inside near T1	74.7	76.5	73.5	75.4	120		
Ambient	45.7	45.9	45.9	63.7	--		
Model: DYS830-300100W (PCB layout DYS830B-P01)							
Plastic enclosure outside near T1	50.2	49.1	46.0	45.7	77		
Ambient	25.0	25.0	25.0	25.0	--		
Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class

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Clause	Requirement + Test				Result - Remark			Verdict
--	--	--	--	--	--	--	--	--
Supplementary information:								
* Temperature limit for TS1 of accessible enclosure according to Table 38.								
Note 1: The apparatus was submitted and evaluated for maximum manufacturer's recommended ambient (Tma) of 45°C.								
Note 2: The temperatures were measured under the worse case normal mode defined in clause B.2.1.								
Note 3. Temperature limits are calculated as follows: Winding components providing safety isolation: Class B → Tmax = 120 - 10=110°C								

B.2.5		TABLE: Input test							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No.	I Fuse (A)	Condition/status	
Model: DYS830-060400W-2									
90	50	0.546	--	28.15	--	F1	0.546	Rated load	
90	60	0.553	--	28.15	--	F1	0.553	Rated load	
100	50	0.503	0.8	27.87	--	F1	0.503	Rated load	
100	60	0.514	0.8	27.95	--	F1	0.514	Rated load	
240	50	0.258	0.8	27.50	--	F1	0.258	Rated load	
240	60	0.257	0.8	27.53	--	F1	0.257	Rated load	
264	50	0.241	--	27.65	--	F1	0.241	Rated load	
264	60	0.243	--	27.67	--	F1	0.243	Rated load	
Model: DYS830-120250W-2									
90	50	0.654	--	35.25	--	F1	0.654	Rated load	
90	60	0.660	--	35.20	--	F1	0.660	Rated load	
100	50	0.595	0.8	34.87	--	F1	0.595	Rated load	
100	60	0.605	0.8	34.86	--	F1	0.605	Rated load	
240	50	0.307	0.8	34.01	--	F1	0.307	Rated load	
240	60	0.299	0.8	34.02	--	F1	0.299	Rated load	
264	50	0.284	--	34.34	--	F1	0.284	Rated load	
264	60	0.280	--	34.18	--	F1	0.280	Rated load	
Model: DYS830-191157W-2									
90	50	0.685	--	35.03	--	F1	0.685	Rated load	
90	60	0.704	--	35.10	--	F1	0.704	Rated load	
100	50	0.610	0.8	34.64	--	F1	0.610	Rated load	
100	60	0.644	0.8	34.76	--	F1	0.644	Rated load	
240	50	0.312	0.8	33.93	--	F1	0.312	Rated load	
240	60	0.314	0.8	33.93	--	F1	0.314	Rated load	

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Clause	Requirement + Test				Result - Remark		Verdict	
264	50	0.295	--	34.21	--	F1	0.295	Rated load
264	60	0.286	--	34.03	--	F1	0.286	Rated load
Model: DYS830-300100W-2								
90	50	0.660	--	34.73	--	F1	0.660	Rated load
90	60	0.675	--	34.74	--	F1	0.675	Rated load
100	50	0.600	0.8	34.33	--	F1	0.600	Rated load
100	60	0.621	0.8	34.41	--	F1	0.621	Rated load
240	50	0.309	0.8	33.98	--	F1	0.309	Rated load
240	60	0.306	0.8	33.99	--	F1	0.306	Rated load
264	50	0.293	--	34.23	--	F1	0.293	Rated load
264	60	0.287	--	34.18	--	F1	0.287	Rated load
Supplementary information:								
The maximum measured current under rated voltage did not exceed 110% of the rated current.								

B.3, B.4	TABLE: Abnormal operating and fault condition tests						P
Ambient temperature T _{amb} (°C)	25°C, if not specified						—
Power source for EUT: Manufacturer, model/type, outputrating ..:	--						—
Component No.	Condition	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation	
Model: DYS830-300100W-2							
DB1 pin 1 to 3	SC	264	1s	F1	--	Fuse F1 opened immediately, no hazard. Output voltage: 0V. Touch current: 0.164mApk	
C1	SC	264	1s	F1	--	Fuse F1 opened immediately, no hazard. Output voltage: 0V. Touch current: 0.164mApk	
U1 pin 5-1	SC	264	30min	F1	0.021	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk	
U1 pin 5-2	SC	264	30min	F1	0.021	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk	
R6	SC	264	1s	F1	--	Fuse F1 opened immediately, no hazard. Output voltage: 0V. Touch current: 0.164mApk	
Q1 pin G-D	SC	264	1s	F1	--	Fuse F1 opened immediately, no hazard.	

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Clause	Requirement + Test			Result - Remark		Verdict
						Output voltage: 0V. Touch current: 0.164mApk
Q1 pin D-S	SC	264	1s	F1	--	Fuse F1 opened immediately, no hazard. Output voltage: 0V. Touch current: 0.164mApk
Q1 pin G-S	SC	264	30min	F1	0.022	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
Transformer pin 1-2	SC	264	30min	F1	0.021	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
Transformer pin 4-5	SC	264	30min	F1	0.021	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
Transformer pin 6-7	SC	264	30min	F1	0.022	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
U2 pin 1-2	SC	264	30min	F1	0.022	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
U2 pin 3-4	SC	264	30min	F1	0.021	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
U2 pin 1	OC	264	30min	F1	0.022	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
U2 pin 3	OC	264	30min	F1	0.021	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
D3	SC	264	30min	F1	0.024	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
C4	SC	264	30min	F1	0.024	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
Model: DYS830-060400W-2						
Output	SC	264	30min	F1	0.023	Unit shutdown immediately,

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Clause	Requirement + Test			Result - Remark		Verdict
					recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk	
Output	OL	264	5h54min	F1	0.243→ 0.261→ 0.277→ 0.023	Output overload to 4.6A, and unit shutdown at 4.7A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 113.1°C, T1 core: 93.1°C, Ambient: 45.2°C. Plastic enclosure outside near T1: 51.1°C, Ambient: 25.0°C.
Transformer	OL	264	6h28min	F1	0.243→ 0.263→ 0.279→ 0.023	Transformer output overload to 4.6A, and unit shutdown at 4.7A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 114.7°C, T1 core: 109.5°C, Ambient: 45.2°C. Plastic enclosure outside near T1: 52.7°C, Ambient: 25.0°C.
Model: DYS830-120250W-2						
Output	SC	264	30min	F1	0.018	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
Output	OL	264	5h55min	F1	0.284→ 0.314→ 0.335→ 0.018	Output overload to 3.0A, and unit shutdown at 3.1A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 106.5°C, T1 core: 101.0°C, Ambient: 45.7°C. Plastic enclosure outside near T1: 54.4°C, Ambient: 25.0°C.

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Transformer	OL	264	6h16min	F1	0.284→ 0.316→ 0.337→ 0.018	Transformer output overload to 3.0A, and unit shutdown at 3.1A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 108.3°C, T1 core: 102.8°C, Ambient: 45.7°C. Plastic enclosure outside near T1: 56.0°C, Ambient: 25.0°C.
Model: DYS830-191157W-2						
Output	SC	264	30min	F1	0.018	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
Output	OL	264	6h59min	F1	0.295→ 0.325→ 0.359→ 0.018	Output overload to 1.95A, and unit shutdown at 2.0A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 123.0°C, T1 core: 121.6°C, Ambient: 45.2°C. Plastic enclosure outside near T1: 61.7°C, Ambient: 25.0°C.
Transformer	OL	264	7h54min	F1	0.295→ 0.329→ 0.364→ 0.018	Transformer output overload to 1.97A, and unit shutdown at 2.07A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 125.4°C, T1 core: 124.0°C, Ambient: 45.2°C. Plastic enclosure outside near T1: 63.8°C, Ambient: 25.0°C.
Model: DYS830-300100W-2						
Output	SC	264	30min	F1	0.022	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Output	OL	264	7h01min	F1	0.293→ 0.320→ 0.359→ 0.022	Output overload to 1.25A, and unit shutdown at 1.3A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 114.3°C, T1 core: 114.1°C, Ambient: 45.2°C. Plastic enclosure outside near T1: 62.3°C, Ambient: 25.0°C.
Transformer	OL	264	4h54min	F1	0.293→ 0.361→ 0.022	Transformer output overload to 1.25A, and unit shutdown at 1.30A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 115.5°C, T1 core: 115.3°C, Ambient: 45.2°C. Plastic enclosure outside near T1: 63.8°C, Ambient: 25.0°C.
Model: DYS830-060400W						
Output	SC	264	30min	F1	0.023	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
Output	OL	264	8h20min	F1	0.243→ 0.261→ 0.277→ 0.023	Output overload to 4.6A, and unit shutdown at 4.7A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 105.7°C, T1 core: 98.4°C, Ambient: 45.8°C. Plastic enclosure outside near T1: 53.6°C, Ambient: 25.0°C.

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Transformer	OL	264	7h30min	F1	0.243→ 0.263→ 0.279→ 0.023	Transformer output overload to 4.6A, and unit shutdown at 4.7A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 107.9°C, T1 core: 100.6°C, Ambient: 45.8°C. Plastic enclosure outside near T1: 55.5°C, Ambient: 25.0°C.
Model: DYS830-120250W						
Output	SC	264	30min	F1	0.018	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
Output	OL	264	8h22min	F1	0.284→ 0.314→ 0.335→ 0.018	Output overload to 3.0A, and unit shutdown at 3.1A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 96.5°C, T1 core: 91.5°C, Ambient: 45.5°C. Plastic enclosure outside near T1: 47.4°C, Ambient: 25.0°C.
Transformer	OL	264	7h43min	F1	0.284→ 0.316→ 0.337→ 0.018	Transformer output overload to 3.0A, and unit shutdown at 3.1A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 97.9°C, T1 core: 92.9°C, Ambient: 45.5°C. Plastic enclosure outside near T1: 49.3°C, Ambient: 25.0°C.
Model: DYS830-191157W						
Output	SC	264	30min	F1	0.018	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Output	OL	264	7h56min	F1	0.295→ 0.325→ 0.359→ 0.018	Output overload to 1.95A, and unit shutdown at 2.0A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 105.0°C, T1 core: 102.9°C, Ambient: 45.4°C. Plastic enclosure outside near T1: 53.0°C, Ambient: 25.0°C.
Transformer	OL	264	6h44min	F1	0.295→ 0.329→ 0.364→ 0.018	Transformer output overload to 1.97A, and unit shutdown at 2.07A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 106.6°C, T1 core: 104.5°C, Ambient: 45.4°C. Plastic enclosure outside near T1: 53.6°C, Ambient: 25.0°C.
Model: DYS830-300100W						
Output	SC	264	30min	F1	0.033	Unit shutdown immediately, recoverable, no hazard. Output voltage: 0V. Touch current: 0.116mApk
Output	OL	264	6h03min	F1	0.293A→ 0.359A→ 0.022A	Output overload to 1.25A, and unit shutdown at 1.3A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 101.5°C, T1 core: 101.0°C, Ambient: 45.9°C. Plastic enclosure outside near T1: 49.7°C, Ambient: 25.0°C.

IEC 62368-1							
Clause	Requirement + Test			Result - Remark			Verdict
Transformer	OL	264	4h28min	F1	0.293A→ 0.361A→ 0.022A	Transformer output overload to 1.25A, and unit shutdown at 1.3A, recoverable, no hazard. Output voltage: 0V, Touch current: 0.116mApk. T1 winding: 102.3°C, T1 core: 101.8°C, Ambient: 45.9°C. Plastic enclosure outside near T1: 51.0°C, Ambient: 25.0°C.	
Supplementary information:							
Test table is provided to record fault conditions for all applicable energy sources including Thermal burn injury.							
1) SC: Short-circuited; OC: Open-circuited; OL: Overloaded. 2) The test result shown all safeguards remained effective, all safeguards complied with applicable requirements in this standard after restoration of normal operating conditions. 3) The test result shown no Class 1 or 2 energy source become Class 3 level during and after single fault condition. 4) For component damaged without fuse opened condition have been repeated twice (three tests total) with same result. 5) The same as result test conducted on all fuse sources, all fuse sources see table 4.1.2 for details. 6) The overloaded condition is according to annex G.5.3.3. 7) Winding Limit for T1 winding: 175 °C – 10 °C = 165 °C; 8) Accessible enclosure: 87 °C. 9) During single fault operating condition test, the output voltage did not increase by more than 10% of its rated output voltage under normal operating condition (For other outlet or connector at ES1)							

M.3	TABLE: Protection circuits for batteries provided within the equipment						N/A
Is it possible to install the battery in a reverse polarity position?							—
Equipment Specification	Charging						
	Voltage (V)			Current (A)			
Manufacturer/type	Battery specification						
	Non-rechargeable batteries		Rechargeable batteries				
	Discharging current (A)	Unintentional charging current (A)	Charging		Discharging current (A)	Reverse charging current (A)	
			Voltage (V)	Current (A)			
Note: The tests of M.3.2 are applicable only when above appropriate data is not available.							
Specified battery temperature (°C)							
Component No.	Fault condition	Charge/ discharge mode	Test time	Temp. (°C)	Current (A)	Voltage (V)	Observation

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

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

M.4.2	TABLE: Charging safeguards for equipment containing a secondary lithium battery				N/A
Maximum specified charging voltage (V)					—
Maximum specified charging current (A)					—
Highest specified charging temperature (°C)					
Lowest specified charging temperature (°C)					
Battery manufacturer/type	Operating and fault condition	Measurement			Observation
		Charging voltage (V)	Charging current (A)	Temp. (°C)	
Supplementary information:					
Abbreviation: SC= short circuit; OC= open circuit; MSCV= maximum specified charging voltage; MSCC= maximum specified charging current; HSCT= highest specified charging temperature; LSCT= lowest specified charging temperature					

Q.1	TABLE: Circuits intended for interconnection with building wiring (LPS)						P
Output Circuit	Condition	U _{oc} (V)	Time (s)	I _{sc} (A)		S (VA)	
				Meas.	Limit	Meas.	Limit
Model: DYS830-050400W-2							
Output	Normal operation	5.23	5s	7.3	8.0	32.7	100
	*U2 pin 1-2 SC	0	5s	0	8.0	0	100
	*U2 pin 3-4 SC	0	5s	0	8.0	0	100
	*U2 pin 1 OC	0	5s	0	8.0	0	100
	*U2 pin 3 OC	0	5s	0	8.0	0	100
	**R6 SC	0	5s	0	8.0	0	100
Model: DYS830-060400W-2							
Output	Normal operation	6.08	5s	4.91	8.0	26.85	100
	*U2 pin 1-2 SC	0	5s	0	8.0	0	100
	*U2 pin 3-4 SC	0	5s	0	8.0	0	100
	*U2 pin 1 OC	0	5s	0	8.0	0	100
	*U2 pin 3 OC	0	5s	0	8.0	0	100
	**R6 SC	0	5s	0	8.0	0	100
Model: DYS830-120250W-2							

IEC 62368-1							
Clause	Requirement + Test			Result - Remark		Verdict	
Output	Normal operation	12.25	5s	3.10	8.0	36.89	100
	*U2 pin 1-2 SC	0	5s	0	8.0	0	100
	*U2 pin 3-4 SC	0	5s	0	8.0	0	100
	*U2 pin 1 OC	0	5s	0	8.0	0	100
	*U2 pin 3 OC	0	5s	0	8.0	0	100
	**R6 SC	0	5s	0	8.0	0	100
Model: DYS830-191157W-2							
Output	Normal operation	19.22	5s	2.04	8.0	38.3	100
	*U2 pin 1-2 SC	0	5s	0	8.0	0	100
	*U2 pin 3-4 SC	0	5s	0	8.0	0	100
	*U2 pin 1 OC	0	5s	0	8.0	0	100
	*U2 pin 3 OC	0	5s	0	8.0	0	100
	**R6 SC	0	5s	0	8.0	0	100
Model: DYS830-300100W-2							
Output	Normal operation	31.30	5s	1.37	4.79	42.44	100
	*U2 pin 1-2 SC	0	5s	0	4.79	0	100
	*U2 pin 3-4 SC	0	5s	0	4.79	0	100
	*U2 pin 1 OC	0	5s	0	4.79	0	100
	*U2 pin 3 OC	0	5s	0	4.79	0	100
	**R6 SC	0	5s	0	4.79	0	100
Supplementary Information:							
SC=Short circuit, OC=Open circuit							
*: Unit shutdown immediately, recoverable, no hazard.							
**: Fuse F1 opened immediately, no hazard.							

T.2, T.3, T.4, T.5	TABLE: Steady force test						P
Part/Location	Material	Thickness (mm)	Probe	Force (N)	Test Duration (s)	Observation	
Model: DYS830-300100W-2, DYS830-300100W-K							
Top side (T.4)	Plastics*	See table 4.1.2	--	100	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.	

IEC 62368-1						
Clause	Requirement + Test		Result - Remark			Verdict
Front sides (T.4)	Plastics*	See table 4.1.2	--	100	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Bottom side (T.4)	Plastics*	See table 4.1.2	--	100	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Internal components (T.2)	--	--	--	10	5	No reduction the clearances and creepage distances
Model: DYS830-300100W						
Top side (T.5)	Plastics*	See table 4.1.2	--	250	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Front sides (T.5)	Plastics*	See table 4.1.2	--	250	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Bottom side (T.5)	Plastics*	See table 4.1.2	--	250	5	Enclosure remained intact, no crack/ opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.

IEC 62368-1						
Clause	Requirement + Test			Result - Remark		Verdict
Internal components (T.2)	--	--	--	10	5	No reduction the clearances and creepage distances
Supplementary information:						
*See table 4.1.2 enclosure materials						

T.6, T.9	TABLE: Impact test				P		
Location/part	Material	Thickness (mm)	Height (mm)	Observation			
Model: DYS830-300100W							
Enclosure top, closed to transformer (T.6)	Plastics*	See table 4.1.2	1300	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.			
Enclosure side (T.6)	Plastics*	See table 4.1.2	1300	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.			
Enclosure bottom (T.6)	Plastics*	See table 4.1.2	1300	Enclosure remained intact, no crack/opening developed. Internal ES3, TS3 were not accessible after test. No insulation breakdown.			
Supplementary information:							
*See table 4.1.2 enclosure materials							

T.7	TABLE: Drop test				P		
Location/part	Material	Thickness (mm)	Height (mm)	Observation			
Model: DYS830-300100W-2, DYS830-300100W, DYS830-300100W-K							
Three side of enclosure (T.7)	Plastics*	See table 4.1.2	1000	After the drop test, enclosure remained intact, no cracking/opening developed in the enclosure joint. Internal ES3, TS3 were not accessible after test. No insulation breakdown.			
Supplementary information:							
*Test were performed on product with each source listed in table 4.1.2							

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
T.8	TABLE: Stress relief test				
Location/Part	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Model: DYS830-300100W-2, DYS830-300100W, DYS830-300100W-K					
Enclosure (T.8)	Plastics*	See table 4.1.2	100°C	7	Enclosure remained intact, no cracking/opening developed in the enclosure joint. Internal ES3, TS3 were not accessible after test. No insulation breakdown.
Supplementary information:					
*Test were performed on product with each source listed in table 4.1.2					

X	TABLE: Alternative method for determining minimum clearances distances			N/A
Clearance distanced between:	Peak of working voltage (V)	Required cl (mm)	Measured cl (mm)	
--	--	--	--	--
Supplementary information:				
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IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict

4.1.2 TABLE: Critical components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
For fixed plug model					
Fixed EU plug portion	Dongguan Dongsong Electronic Co., Ltd.	DYS-EU	250VAC, 0.8A	EN 50075:1990	Tested with appliance
Fixed UK plug portion	Dongguan Dongsong Electronic Co., Ltd.	DYS-UK	250VAC, 0.8A	BS 1363-1: 2016+A1:2018	Tested with appliance
Fixed AU plug portion (for model)	Dongguan Dongsong Electronic Co., Ltd.	DYS-AU	250VAC, 0.8A	AS/NZS 3112: 2017 + A1: 2021	Tested with appliance
Fixed JP plug portion	Dongguan Dongsong Electronic Co., Ltd.	DYS-JP	250VAC, 0.8A	JIS C 8303:2007	Tested with appliance
Plug holder/ pin sleeving material for fixed plug portion	Sabic Innovative Plastics Us L L C	FR6	PC, V-0, 125°C	UL 94, IEC 62368-1, EN IEC 62368-1	UL E121562 Tested with appliance
Insulation Sheet for US, JP fixed plug models	Yi-Hsin Plastech Co Ltd	YIMEX PP-17	V-0, min. 90°C, min. 0.25mm thickness	UL 94, IEC 62368-1, EN IEC 62368-1	UL E300040 Tested with appliance
(Alternative)	Sichuan Longhua Film Co Ltd	PP-(i)(j)	V-0, min. 100°C, min. 0.25mm thickness	UL 94, IEC 62368-1, EN IEC 62368-1	UL E254551 Tested with appliance
(Alternative)	Interchangeable	Interchangeable	V-0, min. 90°C, min. 0.15mm thickness	UL 94	UL
For replaceable plug model					
Replaceable EU plug portion	Dongguan Dongsong Electronic Co., Ltd.	DYS40K-EU	250VAC, 0.8A	EN 50075:1990	Tested with appliance
Replaceable UK plug portion	Dongguan Dongsong Electronic Co., Ltd.	DYS40K-UK	250VAC, 0.8A	BS 1363-1: 2016+A1:2018	Tested with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Replaceable AU plug portion	Dongguan Dongsong Electronic Co., Ltd.	DYS40K-AU	250VAC, 0.8A	AS/NZS 3112: 2017 + A1: 2021	Tested with appliance
Replaceable JP plug portion	Dongguan Dongsong Electronic Co., Ltd.	DYS40K-JP	250VAC, 0.8A	JIS C 8303:2007	Tested with appliance
Plug holder/pin sleeving material for replaceable plug portion	Sabic Innovative Plastics Us L L C	FR6	PC, V-0, 125°C	UL 94, IEC 62368-1, EN IEC 62368-1	UL E121562 Tested with appliance
For desktop type model					
Appliance inlet	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A03-005	AC250V, 2.5A, C8 type	IEC/EN 60320-1	VDE 40014833
(Alternative)	Zhejiang Leci Electronics Co., Ltd	DB-8 Series	AC250V, 2.5A, C8 type	IEC/EN 60320-1	VDE 40032028
(Alternative)	Dongguan Huaconn Electronics Co Ltd	HC-88	AC250V, 2.5A, C8 type	IEC/EN 60320-1	VDE 40032611
For all model					
Plastic enclosure	SABIC INNOVATIVE PLASTICS US L L C	940(f1)(gg*)	PC, V-0, 120°C, 1.5 mm thickness minimum	UL 94, IEC 62368-1, EN IEC 62368-1	UL E121562 Tested with appliance
(Alternative)	SABIC JAPAN L L C	945 (GG)	PC, V-0, 120°C, 1.5 mm thickness minimum	UL 94, IEC 62368-1, EN IEC 62368-1	UL E207780 Tested with appliance
PCB	Kaimau Electronics Dingnan Company Ltd	6FR4	V-0, 130°C	UL 796, IEC 62368-1, EN IEC 62368-1	UL E353492 Tested with appliance
(Alternative)	Huizhou Zhenghua Electronics Co Ltd	ZH-D	V-0, 130°C	UL 796, IEC 62368-1, EN IEC 62368-1	UL E318724 Test with appliance
(Alternative)	Dingnan Jin Peng Electronics Co Ltd	2D	V-0, 130°C	UL 796, IEC 62368-1, EN IEC 62368-1	UL E248992 Test with appliance
(Alternative)	Dongguan Huatuo Electronic Co Ltd	AF-003 (ASP 1)	V-0, 130°C	UL 796, IEC 62368-1, EN IEC 62368-1	UL E347659 Test with appliance
(Alternative)	Zhuhai Benqiang Technology Co Ltd	BQ-D	V-0, 130°C	UL 796, IEC 62368-1, EN IEC 62368-1	UL E504278 Test with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Interchangeable	Interchangeable	Min. V-1, 130°C	UL 796	UL
Primary wire	Dongguan Danyang Electronic Wire Co., Ltd	1007	VW-1, min. 300V, min. 80°C, min. 24AWG	UL 758, IEC 62368-1, EN IEC 62368-1	UL E332522 Tested with appliance
(Alternative)	Interchangeable	Interchangeable	VW-1, min. 300V, min. 80°C, min. 24AWG	UL 758	UL
Material of AC connector (inside EUT)	DSM Engineering Materials B V	TE250F8(h11)(j)(f2)	PA46, V-0	UL 94, IEC 62368-1, EN IEC 62368-1	UL E47960 Tested with appliance
Fuse (F1)	Dongguan Better Electronics Technology Co., Ltd.	932	T2AL or T3.15AL, 250Vac, Sub-miniature type	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40033369
(Alternative)	Shenzhen Lanson Electronics Co. Ltd.	SMT	T2AL or T3.15AL, 250Vac, Sub-miniature type	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40012592
(Alternative)	Conquer Electronics Co., Ltd.	MST	T2AL or T3.15AL, 250Vac, Sub-miniature type	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40017118
(Alternative)	Dongguan Hongda Electronic Technology Co., Ltd.	2009	T2AL or T3.15AL, 250Vac, Sub-miniature type	IEC/EN 60127-1, IEC/EN 60127-3	VDE 40028260
Varistor (ZR1) (Optional)	Thinking Electronic Industrial Co., Ltd.	TVR10561-V, TVR10621-V, TVR10681-V	Min. 350Vac, min. 460Vdc, Coating: min. V-1, min. 125°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, Annex G.8 of IEC/EN IEC 62368-1	VDE 005944 Test with appliance
(Alternative)	Dongguan Qinzhong (Qnr) Electronic Technology Co., Ltd	10D561K, 10D621K, 10D681K	Min. 350Vac, min. 450Vdc, Coating: min. V-1, min. 125°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, Annex G.8 of IEC/EN IEC 62368-1	VDE 40049044 Test with appliance
(Alternative)	Xiamen Set Electronics Co., Ltd.	SFV10D561KM, SFV10D621KM, SFV10D681KM	Min. 350Vac, min. 450Vdc, Coating: min. V-1, min. 125°C	IEC 61051-1, IEC 61051-2, IEC 61051-2-2, Annex G.8 of IEC/EN IEC 62368-1	TUV J 50499842 Test with appliance
X-Capacitor (XC1) (Optional)	Tenta Electric Industrial Co. Ltd.	MEX	Max. 0.22μF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 119119
(Alternative)	Carli Electronics Co Ltd	MPX	Max. 0.22μF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 40008520

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Ultra Tech Xiphi Enterprise Co., Ltd.	HQX	Max. 0.22µF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 40024534, VDE 40015608
(Alternative)	Shenzhen Su Rong Capacitors Co., Ltd.	MPX/MKP	Max. 0.22µF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 40008924
(Alternative)	Guangdong Jurcc Electronics Co., Ltd.	MPX/MKP	Max. 0.22µF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 40034920
(Alternative)	Dongguan Easy-Gather Electronic Co., Ltd.	MKP-X2	Max. 0.22µF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 40022258
(Alternative)	Winsky Electronic (Dong Guan) Co., Ltd	MPX Serie(s)	Max. 0.22µF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 40030283
(Alternative)	Dongguan Weiqing Electronic Co., Ltd.	MPX	Max. 0.22µF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 40040406
(Alternative)	Dongguan Topcap Technology Co. Ltd.	MPX	Max. 0.22µF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 40048575
(Alternative)	Dongguan Cigu Electronic Technology Co Ltd	MPX	Max. 0.22µF, min. 250 Vac, min. 100°C, X2 type	IEC/EN 60384-14	VDE 40050231
Line chock (NF1) (Optional)	ONGGUAN DONGSONG ELECTRONIC CO., LTD.	DYS830-L01	N1 (pin 1-2): Φ0.27mm x 90Ts; N2(pin 4-3): Φ0.27mm x 90Ts. 130°C	IEC 62368-1, EN IEC 62368-1	Tested with appliance
- Bobbin	Chang Chun Plastics Co Ltd	T375J(G5)(G6)	Phenolic, V-0, 150 °C	UL 94, IEC 62368-1, EN IEC 62368-1	UL E59481 Tested with appliance
(Alternative)	Sumitomo Bakelite Co., Ltd.	PM-9820, PM-9830	Phenolic, V-0, 150 °C	UL 94, IEC 62368-1, EN IEC 62368-1	UL E41429 Tested with appliance
- Magnet wire	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
Opto-coupler (U2)	Bright Led Electronics Corp.	BPC-817 (A; B; C; D; L), BPC-817 S	Each Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 110°C	IEC/EN 60747-5-5	VDE 40007240
(Alternative)	Everlight Electronics Co., Ltd.	EL817 (blank;M;S;S1;S2;M2) (blank;V)	Each Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 100°C	IEC/EN 60747-5-5	VDE 132249

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Lite-On Technology Corporation	LTV-817	Each Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 100°C	IEC/EN 60747-5-5	VDE 40015248
(Alternative)	COSMO Electronics Corporation	K1010, KP1010, KPC817.	Each Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 100°C	IEC/EN 60747-5-5	VDE 101347
(Alternative)	CRM ICBG (Wuxi) Co., Ltd.	PC817x (blank;M;S)	Each Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 100°C	IEC/EN 60747-5-5	VDE 40042139
(Alternative)	CT Micro International Corporation	CT817(X2)(X3)(Y)(Z)-(G)	Each Cr.&Cl.=min. 6.0mm, Dti.=min. 0.4mm, min. 100°C	IEC/EN 60747-5-5	VDE 40039590
Y-Capacitor (YC1) (Optional)	Guangdong South Hongming Electronic Science and Technology Co., Ltd.	F	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40036393
(Alternative)	Dongguan Easy-gather electronic Co., Ltd	DCF	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40022942
(Alternative)	JYA-NAY CO., LTD	JNX1X2X3X4X5 X6X7X8X9 series	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	TUV R 50232059
(Alternative)	JYH HSU (JEC) ELECTRONICS LTD	JD	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40038642
(Alternative)	Dongguan City Difu Electronics Co. Ltd.	CT7 Y1 Series	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40041523
(Alternative)	DONGGUAN VINZUN ELECTRONIC & TECHNOLOGY CO., LTD.	CT7 Series	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40046763
(Alternative)	Success Electronics Co., Ltd.	SB	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40020001
(Alternative)	Success Electronics Co., Ltd.	SE	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40020002
(Alternative)	Haohua Electronic Co.	CT7	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40003902
(Alternative)	Walsin Technology Corp.	AH	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40001804

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Dongguan Cigu Electronic Technology Co., Ltd	CD series	Max. 1000pF, min. 250 Vac, 125°C, Y1 type	IEC/EN 60384-14	VDE 40043434
Output wire (for output current 0.01-2.5A)	Dongguan Danyang Electronic Wire Co., Ltd	2468, 2464, 1185	VW-1, min. 80°C, min. 24AWG, min. 300V	UL 758, IEC 62368-1, EN IEC 62368-1	UL E332522 Tested with appliance
(Alternative)	Interchangeable	Interchangeable	VW-1, min. 80°C, min. 24AWG, min. 60V	UL 758	UL
Output wire (for output current 2.51-3.5A)	Dongguan Danyang Electronic Wire Co., Ltd	2468, 2464, 1185	VW-1, min. 80°C, min. 22AWG, min. 300V	UL 758, IEC 62368-1, EN IEC 62368-1	UL E332522 Tested with appliance
(Alternative)	Interchangeable	Interchangeable	VW-1, min. 80°C, min. 22AWG, min. 60V	UL 758	UL
Output wire (for output current 3.51-4.0A)	Dongguan Danyang Electronic Wire Co., Ltd	2468, 2464, 1185	VW-1, min. 80°C, min. 20AWG, min. 300V	UL 758, IEC 62368-1, EN IEC 62368-1	UL E332522 Tested with appliance
(Alternative)	Interchangeable	Interchangeable	VW-1, min. 80°C, min. 20AWG, min. 60V	UL 758	UL

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Transformer (T1)	DONGGUAN XINGSHANGCHENG ELECTRONIC CO., LTD.	1) DYS830-T01 2) DYS830-T02 3) DYS830-T03 4) DYS830-T04	Pri. Winding: N1 (pin 4-3): Φ 0.35mm x 1P x46Ts; N3 (pin 2-1): 1) Φ 0.16mm x 2P x 10Ts; 2) Φ 0.16mm x 2P x13Ts; 3) Φ 0.16mm x 2P x9Ts; 4) Φ 0.16mm x 2P x9Ts; N4 (pin 3-5): Φ 0.35mm x 1P x16Ts; Sec. Winding: N2 (pin 7-6): 1) Φ 0.7mm x 2P x 4Ts; 2) Φ 0.75mm x 1P x 8Ts; 3) Φ 0.65mm x 1P x 9Ts; 4) Φ 0.35mm x 2P x 14Ts. Class B	Applicable part of IEC 62368-1, EN IEC 62368-1 and according to IEC/EN 60085	Tested with appliance
- Bobbin	Chang Chun Plastics Co Ltd	T375HF	Phenolic, 150 °C, V-0, min. thickness: 0.75mm	UL 94, IEC 62368-1, EN IEC 62368-1	UL E59481 Tested with appliance
(Alternative)	Sumitomo Bakelite Co., Ltd.	PM-9630	Phenolic, V-0, 150°C, min. thickness: 0.51mm	UL 94, IEC 62368-1, EN IEC 62368-1	UL E41429 Tested with appliance
- Magnet wire	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
- Triple insulation wire	YOUNG CHANG SILICONE CO., LIMITED	STW-B	Class B, reinforce insulation	IEC 62368-1, EN IEC 62368-1	VDE 40013359
- Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ* (b), CT* (b)(g),	Min. 130°C	UL 510A, IEC 62368-1, EN IEC 62368-1	UL E165111 Test with appliance
(Alternative)	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350-1 (b)	Min. 130°C	UL 510A, IEC 62368-1, EN IEC 62368-1	UL E17385 Test with appliance
- Varnish	Resonac Corporation	WP-2952F-2G	Min. 130°C	UL 1446	UL E72979
(Alternative)	John C Dolph Co	BC-356	Min. 130°C	UL 1446	UL 317427

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
- Margin tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	WF* (c)(h)	Min. 130°C	UL 510A, IEC 62368-1, EN IEC 62368-1	UL E165111 Test with appliance
(Alternative)	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	44 (a)	Min. 130°C	UL 510A, IEC 62368-1, EN IEC 62368-1	UL E17385 Test with appliance
Transformer (T1)	HUIZHOU YIFENG PRECISION ASSEMBLY CO., LTD	1) DYS830-T01 2) DYS830-T02 3) DYS830-T03 4) DYS830-T04	Pri. Winding: N1 (pin 4-3): Φ0.35mm x 1P x46Ts; N3 (pin 2-1): 1)Φ0.16mm x 2P x 10Ts; 2)Φ0.16mm x 2P x13Ts; 3)Φ0.16mm x 2P x9Ts; 4)Φ0.16mm x 2P x9Ts; N4 (pin 3-5): Φ0.35mm x 1P x16Ts; Sec. Winding: N2 (pin 7-6): 1)Φ0.7mm x 2P x 4Ts; 2)Φ0.75mm x 1P x 8Ts; 3)Φ0.65mm x 1P x 9Ts; 4)Φ0.35mm x 2P x 14Ts. Class B	Applicable part of IEC 62368-1, EN IEC 62368-1 and according to IEC/EN 60085	Tested with appliance
- Bobbin	Chang Chun Plastics Co Ltd	T375J(G5)(G6)	Phenolic, 150 °C, V-0, min. thickness: 0.75mm	UL 94, IEC 62368-1, EN IEC 62368-1	UL E59481 Tested with appliance
(Alternative)	Sumitomo Bakelite Co., Ltd.	PM-9820	Phenolic, V-0, 150°C, min. 0.70 mm thickness	UL 94, IEC 62368-1, EN IEC 62368-1	UL E41429 Tested with appliance
- Magnet wire	Interchangeable	Interchangeable	Min. 130°C	UL 1446	UL
- Triple insulation wire	KBI COSMOLINK CO., LTD.	TIW-M	Class B, reinforce insulation	IEC 62368-1, EN IEC 62368-1	VDE 138053
- Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT* (c)(g)	Min. 130°C	UL 510A, IEC 62368-1, EN IEC 62368-1	UL E165111 Test with appliance

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1 (b)	Min. 130°C	UL 510A, IEC 62368-1, EN IEC 62368-1	UL E17385 Test with appliance
- Varnish	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD	T-4260(a), T-1168(a), ET-90(a)	Min. 130°C	UL 1446	UL E228349
- Margin tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	WF* (c)(h)	Min. 130°C	UL 510A, IEC 62368-1, EN IEC 62368-1	UL E165111 Test with appliance
(Alternative)	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	44 (a)	Min. 130°C	UL 510A, IEC 62368-1, EN IEC 62368-1	UL E17385 Test with appliance
Functional Components					
Bleeding resistor (R1, R2, R3, R4)	Interchangeable	Interchangeable	Each max. 3.0M ohm, min. 1/8W	IEC 62368-1, EN IEC 62368-1	Tested with appliance
Bridge rectifier (DB1)	Interchangeable	Interchangeable	Min. 1A, min. 400V	IEC 62368-1, EN IEC 62368-1	Tested with appliance
Electrolytic capacitor (C1, C2)	Interchangeable	Interchangeable	4.7-47µF, min. 400V, 105°C	IEC 62368-1, EN IEC 62368-1	Tested with appliance
Mosfet (Q1)	Interchangeable	Interchangeable	Min. 1A, min. 400V	IEC 62368-1, EN IEC 62368-1	Tested with appliance
Current Limit resistor (R6, R7, R8)	Interchangeable	Interchangeable	0.1-10ohm, min. 1/4W	IEC 62368-1, EN IEC 62368-1	Tested with appliance
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
License available upon request.					

Clause	Requirement + Test	Result - Remark	Verdict
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Appendix 1:

IEC62368_1E - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
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ATTACHMENT TO TEST REPORT

IEC 62368-1

EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

(Audio/video, information and communication technology equipment - Part 1: Safety requirements)

Differences according to..... : EN IEC 62368-1:2020+A11:2020

Attachment Form No. : EU_GD_IEC62368_1E

Attachment Originator..... : UL(Demko)

Master Attachment..... : 2021-02-04

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	CENELEC COMMON MODIFICATIONS (EN)	P
	Clause numbers in the cells that are shaded light grey are clause references in EN IEC 62368-1:2020+A11:2020. All other clause numbers in that column, except for those in the paragraph below, refers to IEC 62368-1:2018. Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2018 are prefixed "Z".	P
	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords	P
1	Modification to Clause 3.	N/A
3.3.19	Sound exposure <i>Replace 3.3.19 of IEC 62368-1 with the following definitions:</i>	N/A

IEC62368-1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.19.1	<p>momentary exposure level, MEL</p> <p>metric for estimating 1 s sound exposure level from the HD 483-1 S2 test signal applied to both channels, based on EN 50332-1:2013, 4.2.</p> <p>Note 1 to entry: MEL is measured as A-weighted levels in dB.</p> <p>Note 2 to entry: See B.3 of EN 50332-3:2017 for additional information.</p>		N/A
3.3.19.3	<p>sound exposure, E</p> <p>A-weighted sound pressure (p) squared and integrated over a stated period of time, T</p> <p>Note 1 to entry: The SI unit is Pa² s.</p> $E = \int_0^T p(t)^2 dt$		N/A
3.3.19.4	<p>sound exposure level, SEL</p> <p>logarithmic measure of sound exposure relative to a reference value, E_0, typically the 1 kHz threshold of hearing in humans.</p> <p>Note 1 to entry: SEL is measured as A-weighted levels in dB.</p> $SEL = 10 \lg \left(\frac{E}{E_0} \right) \text{ dB}$ <p>Note 2 to entry: See B.4 of EN 50332-3:2017 for additional information.</p>		N/A
3.3.19.5	<p>digital signal level relative to full scale, dBFS</p> <p>levels reported in dBFS are always r.m.s. Full scale level, 0 dBFS, is the level of a dc-free 997-Hz sine wave whose undithered positive peak value is positive digital full scale, leaving the code corresponding to negative digital full scale unused</p> <p>Note 1 to entry: It is invalid to use dBFS for non-r.m.s. levels. Because the definition of full scale is based on a sine wave, the level of signals with a crest factor lower than that of a sine wave may exceed 0 dBFS. In particular, square wave signals may reach +3,01 dBFS.</p>		N/A
2	Modification to Clause 10		N/A
10.6	<p>Safeguards against acoustic energy sources</p> <p>Replace 10.6 of IEC 62368-1 with the following:</p>		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.6.1.1	<p>Introduction</p> <p>Safeguard requirements for protection against long-term exposure to excessive sound pressure levels from personal music players closely coupled to the ear are specified below. Requirements for earphones and headphones intended for use with personal music players are also covered.</p> <p>A personal music player is a portable equipment intended for use by an ordinary person, that:</p> <ul style="list-style-type: none"> – is designed to allow the user to listen to audio or audiovisual content / material; and – uses a listening device, such as headphones or earphones that can be worn in or on or around the ears; and – has a player that can be body worn (of a size suitable to be carried in a clothing pocket) and is intended for the user to walk around with while in continuous use (for example, on a street, in a subway, at an airport, etc.). <p>EXAMPLES Portable CD players, MP3 audio players, mobile phones with MP3 type features, PDAs or similar equipment.</p> <p>Personal music players shall comply with the requirements of either 10.6.2 or 10.6.3.</p> <p>NOTE 1 Protection against acoustic energy sources from telecom applications is referenced to ITU-T P.360.</p> <p>NOTE 2 It is the intention of the Committee to allow the alternative methods for now, but to only use the dose measurement method as given in 10.6.5 in future. Therefore, manufacturers are encouraged to implement 10.6.5 as soon as possible.</p> <p>Listening devices sold separately shall comply with the requirements of 10.6.6.</p> <p>These requirements are valid for music or video mode only.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> – professional equipment; <p>NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.</p> <ul style="list-style-type: none"> – hearing aid equipment and other devices for assistive listening; – the following type of analogue personal music 	No such part in this equipment	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>players:</p> <ul style="list-style-type: none"> • long distance radio receiver (for example, a multiband radio receiver or world band radio receiver, an AM radio receiver), and • cassette player/recorder; <p>NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies.</p> <p>– a player while connected to an external amplifier that does not allow the user to walk around while in use.</p> <p>For equipment that is clearly designed or intended primarily for use by children, the limits of the relevant toy standards may apply.</p> <p>The relevant requirements are given in EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		
10.6.1.2	<p>Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body mounted devices, attention is drawn to EN 50360 and EN 50566.</p>	<p>Added. The equipment is a low power AC Adapter, it does incorporate only non-intentional radiators, but does not contain radio transmitters; the typical usage, installation and physical characteristics make the equipment inherently compliant with all applicable EMF exposure levels (EN 62479:2010 clause 4.1 Route A).</p>	N/A
10.6.2	Classification of devices without the capacity to estimate sound dose		N/A
10.6.2.1	<p>General</p> <p>This standard is transitioning from short-term based (30 s) requirements to long-term based (40 hour) requirements. These clauses remain in effect only for devices that do not comply with sound dose estimation as stipulated in EN 50332-3.</p> <p>For classifying the acoustic output L_{Aeq}, T, measurements are based on the A-weighted equivalent sound pressure level over a 30 s period.</p> <p>For music where the average sound pressure (long term L_{Aeq}, T) measured over the duration of the song is lower than the average produced by the programme simulation noise, measurements may</p>	No such part in this equipment	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>be done over the duration of the complete song. In this case, T becomes the duration of the song.</p> <p>NOTE Classical music, acoustic music and broadcast typically has an average sound pressure (long term L_{Aeq}, T) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the content and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song does not exceed the required limit.</p> <p>For example, if the player is set with the programme simulation noise to 85 dB, but the average music level of the song is only 65 dB, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dB.</p>		
10.6.2.2	<p>RS1 limits (to be superseded, see 10.6.3.2)</p> <p>RS1 is a class 1 acoustic energy source that does not exceed the following:</p> <ul style="list-style-type: none"> – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the $L_{Aeq}, T_{acoustic}$ output shall be ≤ 85 dB when playing the fixed “programme simulation noise” described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 27 mV (analogue interface) or -25 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1. – The RS1 limits will be updated for all devices as per 10.6.3.2. 		N/A
10.6.2.3	<p>RS2 limits (to be superseded, see 10.6.3.3)</p> <p>RS2 is a class 2 acoustic energy source that does not exceed the following:</p> <ul style="list-style-type: none"> – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or when the combination of player and listening device is known by other means such as setting or automatic 130 detection, the L_{Aeq}, T acoustic output shall be ≤ 100 dB(A) when playing the fixed “programme simulation noise” as described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 35 mV (analogue interface) or -20 dBFS (digital interface) when playing the fixed “programme simulation noise” described in EN 50332-1. 		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 150 mV (analogue interface) or -10 dBFS (digital interface) when playing the fixed "programme simulation noise" as described in EN 50332-1.		
10.6.2.4	RS3 limits RS3 is a class 3 acoustic energy source that exceeds RS2 limits.		N/A
10.6.3	Classification of devices (new)		N/A
10.6.3.1	General Previous limits (10.6.2) created abundant false negative and false positive PMP sound level warnings. New limits, compliant with The Commission Decision of 23 June 2009, are given below.		N/A
10.6.3.2	RS1 limits (new) RS1 is a class 1 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the L_{Aeq} , $T_{acoustic}$ output shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output voltage shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		N/A
10.6.3.3	RS2 limits (new) RS2 is a class 2 acoustic energy source that does not exceed the following: – for equipment provided as a package (player with its listening device), and with a proprietary connector between the player and its listening device, or where the combination of player and listening device is known by other means such as setting or automatic detection, the weekly sound exposure level, as described in EN 50332-3, shall be ≤ 80 dB when playing the fixed "programme simulation noise" described in EN 50332-1. – for equipment provided with a standardized connector (for example, a 3,5 phone jack) that allows connection to a listening device for general use, the unweighted r.m.s. output level, integrated		N/A

Clause	Requirement + Test	Result - Remark	Verdict
	over one week, as described in EN50332-3, shall be ≤ 15 mV (analogue interface) or -30 dBFS (digital interface) when playing the fixed "programme simulation noise" described in EN 50332-1.		
10.6.4	Requirements for maximum sound exposure		N/A
10.6.4.1	<p>Measurement methods</p> <p>All volume controls shall be turned to maximum during tests.</p> <p>Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable.</p>		N/A
10.6.4.2	<p>Protection of persons</p> <p>Except as given below, protection requirements for parts accessible to ordinary persons, instructed persons and skilled persons are given in 4.3.</p> <p>NOTE 1 Volume control is not considered a safeguard.</p> <p>Between RS2 and an ordinary person, the basic safeguard may be replaced by an instructional safeguard in accordance with Clause F.5, except that the instructional safeguard shall be placed on the equipment, or on the packaging, or in the instruction manual.</p> <p>Alternatively, the instructional safeguard may be given through the equipment display during use.</p> <p>The elements of the instructional safeguard shall be as follows:</p> <ul style="list-style-type: none"> – element 1a: the symbol  IEC 60417-6044 (2011-01) – element 2: "High sound pressure" or equivalent wording – element 3: "Hearing damage risk" or equivalent wording – element 4: "Do not listen at high volume levels for long periods." or equivalent wording <p>An equipment safeguard shall prevent exposure of an ordinary person to an RS2 source without intentional physical action from the ordinary person and shall automatically return to an output level not exceeding what is specified for an RS1 source when the power is switched off.</p> <p>The equipment shall provide a means to actively inform the user of the increased sound level when the equipment is operated with an output exceeding RS1. Any means used shall be acknowledged by the user before activating a</p>		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>mode of operation which allows for an output exceeding RS1. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time.</p> <p>NOTE 2 Examples of means include visual or audible signals. Action from the user is always needed.</p> <p>NOTE 3 The 20 h listening time is the accumulative listening time, independent of how often and how long the personal music player has been switched off.</p> <p>A skilled person shall not be unintentionally exposed to RS3.</p>		
10.6.5	Requirements for dose-based systems		N/A
10.6.5.1	<p>General requirements</p> <p>Personal music players shall give the warnings as provided below when tested according to EN 50332-3, using the limits from this clause.</p> <p>The manufacturer may offer optional settings to allow the users to modify when and how they wish to receive the notifications and warnings to promote a better user experience without defeating the safeguards. This allows the users to be informed in a method that best meets their physical capabilities and device usage needs. If such optional settings are offered, an administrator (for example, parental restrictions, business/educational administrators, etc.) shall be able to lock any optional settings into a specific configuration.</p> <p>The personal music player shall be supplied with easy to understand explanation to the user of the dose management system, the risks involved, and how to use the system safely. The user shall be made aware that other sources may significantly contribute to their sound exposure, for example work, transportation, concerts, clubs, cinema, car races, etc.</p>		
10.6.5.2	<p>Dose-based warning and requirements</p> <p>When a dose of 100 % CSD is reached, and at least at every 100 % further increase of CSD, the device shall warn the user and require an acknowledgement. In case the user does not acknowledge, the output level shall automatically decrease to compliance with class RS1.</p> <p>The warning shall at least clearly indicate that listening above 100 % CSD leads to the risk of</p>		

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Clause	Requirement + Test	Result - Remark	Verdict
10.6.5.3	<p>hearing damage or loss.</p> <p>Exposure-based requirements</p> <p>With only dose-based requirements, cause and effect could be far separated in time, defying the purpose of educating users about safe listening practice. In addition to dose-based requirements, a PMP shall therefore also put a limit to the short-term sound level a user can listen at.</p> <p>The exposure-based limiter (EL) shall automatically reduce the sound level not to exceed 100 dB(A) or 150 mV integrated over the past 180 s, based on methodology defined in EN 50332-3.</p> <p>The EL settling time (time from starting level reduction to reaching target output) shall be 10 s or faster.</p> <p>Test of EL functionality is conducted according to EN 50332-3, using the limits from this clause. For equipment provided as a package (player with its listening device), the level integrated over 180 s shall be 100 dB or lower. For equipment provided with a standardized connector, the unweighted level integrated over 180 s shall be no more than 150 mV for an analogue interface and no more than -10 dBFS for a digital interface.</p> <p>NOTE In case the source is known not to be music (or test signal), the EL may be disabled.</p>		N/A
10.6.6	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.6.1	<p>Corded listening devices with analogue input</p> <p>With 94 dB LAeq acoustic pressure output of the listening device, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output, the input voltage of the listening device when playing the fixed “programme simulation noise” as described in EN 50332-1 shall be ≥ 75 mV.</p> <p>NOTE The values of 94 dB and 75 mV correspond with 85 dB and 27 mV or 100 dB and 150 mV.</p>		N/A
10.6.6.2	<p>Corded listening devices with digital input</p> <p>With any playing device playing the fixed “programme simulation noise” described in EN 50332-1, and with the volume and sound settings in the listening device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic</p>		N/A

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Clause	Requirement + Test	Result - Remark		Verdict																																																													
	output, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.																																																																
10.6.6.3	Cordless listening devices In cordless mode, – with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and – respecting the cordless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and – with volume and sound settings in the receiving device (for example, built-in volume level control, additional sound features like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the above mentioned programme simulation noise, the $L_{Aeq,T}$ acoustic output of the listening device shall be ≤ 100 dB with an input signal of -10 dBFS.			N/A																																																													
10.6.6.4	Measurement method <i>Measurements shall be made in accordance with EN 50332-2 as applicable.</i>			N/A																																																													
3	Modification to the whole document			N/A																																																													
	Delete all the "country" notes in the reference document according to the following list:			N/A																																																													
	<table border="1"> <tr><td>0.2.1</td><td>Note 1 and 2</td><td>1</td><td>Note 4 and 5</td><td>3.3.8.1</td><td>Note 2</td></tr> <tr><td>3.3.8.3</td><td>Note 1</td><td>4.1.15</td><td>Note</td><td>4.7.3</td><td>Note 1 and 2</td></tr> <tr><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 12</td><td>Note c</td><td>5.4.2.3.2.4</td><td>Note 1 and 3</td></tr> <tr><td>5.4.2.3.2.4 Table 13</td><td>Note 2</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr> <tr><td>5.4.10.2.1</td><td>Note</td><td>5.4.10.2.2</td><td>Note</td><td>5.4.10.2.3</td><td>Note</td></tr> <tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3 and 4</td></tr> <tr><td>5.6.8</td><td>Note 2</td><td>5.7.6</td><td>Note</td><td>5.7.7.1</td><td>Note 1 and Note 2</td></tr> <tr><td>8.5.4.2.3</td><td>Note</td><td>10.2.1 Table 39</td><td>Note 3 and 4 and 5</td><td>10.5.3</td><td>Note 2</td></tr> <tr><td>10.6.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td><td>Y.4.1</td><td>Note</td></tr> <tr><td>Y.4.5</td><td>Note</td><td></td><td></td><td></td><td></td></tr> </table>	0.2.1	Note 1 and 2	1	Note 4 and 5	3.3.8.1	Note 2	3.3.8.3	Note 1	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 12	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.3.2.4 Table 13	Note 2	5.4.2.5	Note 2	5.4.5.1	Note	5.4.10.2.1	Note	5.4.10.2.2	Note	5.4.10.2.3	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3 and 4	5.6.8	Note 2	5.7.6	Note	5.7.7.1	Note 1 and Note 2	8.5.4.2.3	Note	10.2.1 Table 39	Note 3 and 4 and 5	10.5.3	Note 2	10.6.1	Note 3	F.3.3.6	Note 3	Y.4.1	Note	Y.4.5	Note								
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Clause	Requirement + Test	Result - Remark	Verdict
1	<p>Add the following note:</p> <p><i>NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.</i></p>		P
5	Modification to 4.Z1		P
4.Z1	<p>Add the following new subclause after 4.9:</p> <p>To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. mains, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for pluggable equipment type B or permanently connected equipment, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for pluggable equipment type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>	<p>Considered.</p> <p>Complied with item a) for internal fuse used and for parts as described in b) reliance on the protection in the building installation.</p>	P
6	Modification to 5.4.2.3.2.4		N/A
5.4.2.3.2.4	<p>Add the following to the end of this subclause:</p> <p>The requirement for interconnection with external circuit is in addition given in EN 50491-3:2009.</p>	No external circuits.	N/A
7	Modification to 10.2.1		N/A
10.2.1	<p>Add the following to ^{c)} and ^{d)} in table 39:</p> <p>For additional requirements, see 10.5.1.</p>	No such radiation from the equipment.	N/A
8	Modification to 10.5.1		N/A
10.5.1	<p>Add the following after the first paragraph:</p> <p>For RS 1 compliance is checked by measurement under the following conditions:</p> <p>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those</p>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict																																
	<p>internal adjustments or pre-sets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.</p> <p>Moreover, the measurement shall be made under fault conditions causing an increase of the high voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</p> <p>For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.</p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>																																		
9	Modification to G.7.1		N/A																																
G.7.1	<i>Add the following note:</i>		N/A																																
	NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.																																		
10	Modification to Bibliography		N/A																																
	<p>Add the following notes for the standards indicated:</p> <table> <tbody> <tr> <td>IEC 60130-9</td> <td>NOTE Harmonized as EN 60130-9.</td> </tr> <tr> <td>IEC 60269-2</td> <td>NOTE Harmonized as HD 60269-2.</td> </tr> <tr> <td>IEC 60309-1</td> <td>NOTE Harmonized as EN 60309-1.</td> </tr> <tr> <td>IEC 60364</td> <td>NOTE some parts harmonized in HD 384/HD 60364 series.</td> </tr> <tr> <td>IEC 60601-2-4</td> <td>NOTE Harmonized as EN 60601-2-4.</td> </tr> <tr> <td>IEC 60664-5</td> <td>NOTE Harmonized as EN 60664-5.</td> </tr> <tr> <td>IEC 61032:1997</td> <td>NOTE Harmonized as EN 61032:1998 (not modified).</td> </tr> <tr> <td>IEC 61508-1</td> <td>NOTE Harmonized as EN 61508-1.</td> </tr> <tr> <td>IEC 61558-2-1</td> <td>NOTE Harmonized as EN 61558-2-1.</td> </tr> <tr> <td>IEC 61558-2-4</td> <td>NOTE Harmonized as EN 61558-2-4.</td> </tr> <tr> <td>IEC 61558-2-6</td> <td>NOTE Harmonized as EN 61558-2-6.</td> </tr> <tr> <td>IEC 61643-1</td> <td>NOTE Harmonized as EN 61643-1.</td> </tr> <tr> <td>IEC 61643-21</td> <td>NOTE Harmonized as EN 61643-21.</td> </tr> <tr> <td>IEC 61643-311</td> <td>NOTE Harmonized as EN 61643-311.</td> </tr> <tr> <td>IEC 61643-321</td> <td>NOTE Harmonized as EN 61643-321.</td> </tr> <tr> <td>IEC 61643-331</td> <td>NOTE Harmonized as EN 61643-331.</td> </tr> </tbody> </table>		IEC 60130-9	NOTE Harmonized as EN 60130-9.	IEC 60269-2	NOTE Harmonized as HD 60269-2.	IEC 60309-1	NOTE Harmonized as EN 60309-1.	IEC 60364	NOTE some parts harmonized in HD 384/HD 60364 series.	IEC 60601-2-4	NOTE Harmonized as EN 60601-2-4.	IEC 60664-5	NOTE Harmonized as EN 60664-5.	IEC 61032:1997	NOTE Harmonized as EN 61032:1998 (not modified).	IEC 61508-1	NOTE Harmonized as EN 61508-1.	IEC 61558-2-1	NOTE Harmonized as EN 61558-2-1.	IEC 61558-2-4	NOTE Harmonized as EN 61558-2-4.	IEC 61558-2-6	NOTE Harmonized as EN 61558-2-6.	IEC 61643-1	NOTE Harmonized as EN 61643-1.	IEC 61643-21	NOTE Harmonized as EN 61643-21.	IEC 61643-311	NOTE Harmonized as EN 61643-311.	IEC 61643-321	NOTE Harmonized as EN 61643-321.	IEC 61643-331	NOTE Harmonized as EN 61643-331.	N/A
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11	ADDITION OF ANNEXES		P																																
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P																																

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Clause	Requirement + Test	Result - Remark	Verdict
4.1.15	<p>Denmark, Finland, Norway and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>Class I pluggable equipment type A intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment shall be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Denmark: "Apparrets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."</p> <p>In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>	Class II equipment	N/A
4.7.3	<p>United Kingdom</p> <p>To the end of the subclause the following is added:</p> <p>The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>		P
5.2.2.2	<p>Denmark</p> <p>After the 2nd paragraph add the following:</p> <p>A warning (marking safeguard) for high touch current is required if the touch current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>	No high touch current.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.11.1 and Annex G	<p>Finland and Sweden</p> <p>To the end of the subclause the following is added:</p> <p>For separation of the telecommunication network from earth the following is applicable:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), <p>and</p> <ul style="list-style-type: none"> • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; 	No TNV circuits.4.7.4	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
5.5.2.1	Norway After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Shall be evaluated when national approval	N/A
5.5.6	Finland, Norway and Sweden To the end of the subclause the following is added: Resistors used as basic safeguard or bridging basic insulation in class I pluggable equipment type A shall comply with G.10.1 and the test of G.10.2.	No such resistors.	N/A
5.6.1	Denmark Add to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. <i>Justification:</i> In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	Considered.	N/A
5.6.4.2.1	Ireland and United Kingdom After the indent for pluggable equipment type A , the following is added: – the protective current rating is taken to be 13 A, this being the largest rating of fuse used in the mains plug.	Considered.	P
5.6.4.2.1	France After the indent for pluggable equipment type A , the following is added: – in certain cases, the protective current rating of the circuit supplied from the mains is taken as 20 A instead of 16 A.	Considered.	N/A
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm ² to 1,5 mm ² in cross-sectional area.	See above.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.8	<p>Norway</p> <p>To the end of the subclause the following is added: Equipment connected with an earthed mains plug is classified as class I equipment. See the Norway marking requirement in 4.1.15. The symbol IEC 60417-6092, as specified in F.3.6.2, is accepted.</p>	No high protective conductor current.	N/A
5.7.6	<p>Denmark</p> <p>To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the protective conductor current exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>	Not such system.	N/A
5.7.6.2	<p>Denmark</p> <p>To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA.</p>	No external circuits.	N/A
5.7.7.1	<p>Norway and Sweden</p> <p>To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator</p>	Not such system.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	<p>shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>"Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet."</p> <p>Translation to Swedish:</p> <p>"Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.."</p>		
8.5.4.2.3	<p>United Kingdom</p> <p>Add the following after the 2nd dash bullet in 3rd paragraph:</p> <p>An emergency stop system complying with the requirements of IEC 60204-1 and ISO 13850 is required where there is a risk of personal injury.</p>	Not such system.	N/A
B.3.1 and B.4	<p>Ireland and United Kingdom</p> <p>The following is applicable:</p> <p>To protect against excessive currents and short-circuits in the primary circuit of direct plug-in equipment, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the direct plug-in equipment, until the requirements of Annexes B.3.1 and B.4 are met</p>		P
G.4.2	<p>Denmark</p> <p>To the end of the subclause the following is added:</p> <p>Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be</p>		N/A

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

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	<p>United Kingdom</p> <p>To the first paragraph the following is added:</p> <p>Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc. (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations.</p> <p>NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A
G.7.1	<p>Ireland</p> <p>To the first paragraph the following is added:</p> <p>Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard</p>		N/A
G.7.2	<p>Ireland and United Kingdom</p> <p>To the first paragraph the following is added:</p> <p>A power supply cord with a conductor of 1,25 mm² is allowed for equipment which is rated over 10 A and up to and including 13 A.</p>		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)	N/A
10.5.2	<p>Germany</p> <p>The following requirement applies:</p> <p>For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i> German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p>NOTE Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int+49-531-592-6320, Internet: http://www.ptb.de</p>	No CRT within the equipment. N/A

IEC62368_1E - ATTACHMENT

Clause	Requirement + Test	Result - Remark	Verdict
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ZD	IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS (EN)			N/A
			Type of flexible cord	Code designations
				IEC CENELEC
PVC insulated cords				
Flat twin tinsel cord			60227 IEC 41	H03VH-Y
Light polyvinyl chloride sheathed flexible cord			60227 IEC 52	H03VV-F H03VVH2-F
Ordinary polyvinyl chloride sheathed flexible cord			60227 IEC 53	H05VV-F H05VVH2-F
Rubber insulated cords				
Braided cord			60245 IEC 51	H03RT-F
Ordinary tough rubber sheathed flexible cord			60245 IEC 53	H05RR-F
Ordinary polychloroprene sheathed flexible cord			60245 IEC 57	H05RN-F
Heavy polychloroprene sheathed flexible cord			60245 IEC 66	H07RN-F
Cords having high flexibility				
Rubber insulated and sheathed cord			60245 IEC 86	H03RR-H
Rubber insulated, crosslinked PVC sheathed cord			60245 IEC 87	H03RV4-H
Crosslinked PVC insulated and sheathed cord			60245 IEC 88	H03V4V4-H
Cords insulated and sheathed with halogen-free thermoplastic compounds				
Light halogen-free thermoplastic insulated and sheathed flexible cords				H03Z1Z1-F H03Z1Z1H2-F
Ordinary halogen-free thermoplastic insulated and sheathed flexible cords				H05Z1Z1-F H05Z1Z1H2-F

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 62368-1

U.S.A. AND CANADA NATIONAL DIFFERENCES

(Audio/video, information and communication technology equipment – Part 1: Safety requirements)

Differences according to: CSA/UL 62368-1:2019

TRF template used: : IECEE OD-2020-F3, Ed. 1.1

Attachment Form No.: US_CA_ND_IEC62368_1E

Attachment Originator: UL(US)

Master Attachment: Dated 2022-03-04

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IEC 62368-1 - US and Canadian National Differences

Special National Conditions based on Regulations and Other National Differences

1 (1DV.1) (1.3)	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part 1, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, for such equipment marked or otherwise identified, installation is allowed per the Standard for the Protection of Information Technology Equipment, ANSI/NFPA 75.	In accordance with the National Electrical Code (NEC) and the Canadian Electrical Code (CEC) part 1 CAN/CSA C22.1, ANSI/NFPA 70, and unless marked or otherwise identified, the Standard for Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	P
1 (1DV.2.1)	This standard includes additional requirements for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities. See Annex DVB.		N/A
1 (1DV.2.2)	This standard includes additional requirements for equipment intended for mounting under cabinets. See Annex DVC.		N/A
1 (1DV.2.3)	IEC 62368-3 clause 5 for DC power transfer at ES1 or ES2 voltage levels is considered informative. IEC 62368-3 clause 6 for remote power feeding telecommunication (RFT) circuits is considered normative (see ITU K.50). Alternatively, equipment with RFT circuits are given in either UL 2391 or CSA/UL 60950-21. RFT-C circuits are not permitted unless the RFT-C circuit complies with RFT-V limits (\leq 200V per conductor to earth).		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1 (1DV.3)	For protection against direct lightning strikes, reference is made to NFPA 780 and CAN/CSA-B72 for additional requirements.	Considered.	N/A
1 (DV.5)	Additional requirements apply to some forms of power distribution equipment, including sub-assemblies.	Considered.	P
4.1 (4.1.17)	For lengths exceeding 3.05 m, external interconnecting cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the NEC.		N/A
	For lengths 3.05 m or less, external interconnecting cable assemblies that are not types specified in the NEC generally are required to have special construction features and identification markings.	See above.	P
4.6 (4.6.2)	Wire-wrap terminals have special construction and performance requirements.		N/A
4.8 (4.8.3, 4.8.4.5, 4.8.5)	Coin / button cell batteries have modified special construction and performance requirements.	No such batteries.	N/A
5.4.2.3.2 (5.4.2.3.2.1)	Surge Arrestors and Transient Voltage Surge Suppressors installed external to the equipment are required to comply with the appropriate NEC and CEC requirements.		N/A
5.5.9	Receptacles, rated 125-V, single phase, 15- or 20-A accessible to either ordinary, instructed, or skilled persons are required to be provided with GFCI Protection for Personnel if the equipment containing the receptacles is installed outdoors. The protection devices are required to comply with UL 943, and CAN/CSA C22.2 No.144.		N/A
5.6.3	Protective earthing conductors comply with the minimum conductor sizes in Table G.7, except as required by Table G.7ADV.1 for cord connected equipment, or Annex DVH for permanently connected equipment.		N/A
5.7.8 (5.7.8.1)	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV circuits within the equipment.	N/A
6.5.1	PS3 wiring outside a fire enclosure is required to comply with single fault testing in B.4, or be current limited per one of the permitted methods.	No such parts.	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex F (F.3.3.9)	Output terminals provided for supply of other equipment, except mains supply, are required to be marked with a maximum rating or reference to equipment permitted to be connected.	DC output connector is provided. Indicated by User specification.	P
Annex F (F.3.7)	Outdoor Enclosures are required to be classified and marked in accordance with UL 50 or 50E, or CAN/CSA C22.2 No. 94.1 or 94.2.		N/A
Annex G (G.7)	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	The equipment is not permanent connection equipment.	N/A
	Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
	Minimum cord length is required to be 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement. Power supply cords are required to be no longer than 4.5 m in length if used in ITE Rooms.		N/A
	Power supply cords for outdoor equipment are required to be suitable outdoor use type as required by Section 400.4 of the NEC and Rule 4-012 of the CEC, i.e., marked "W."		N/A
Annex H.2	Continuous ringing signals under normal operating conditions up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV circuits within the equipment.	N/A
Annex H.4	For circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.c., the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	No TNV circuits within the equipment.	N/A
Annex Q (Q.3)	Equipment with paired conductor and/or coax communications cables/wiring connected to building wiring are required to have special voltage, current, power and marking requirements.		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (1)	Equipment that is designed such that it may be powered from a separate electrical service, is required to meet applicable requirements for service equipment for control and protection of services and their installation and complies with Article 230 of the National Electrical Code (NEC), NFPA 70 and Section 6 of the Canadian Electrical Code, Part I, CSA C22.1.	The equipment not intended to be used within such environments.	N/A
	Equipment intended for use in spaces used for environmental air (plenums) are subjected to special flammability requirements for heat and visible smoke release.		N/A
	For ITE room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not such equipment.	N/A
	Consumer products designed or intended primarily for children 12 years of age or younger are subject to additional requirements in accordance with U.S. and Canadian Regulations.	The equipment is not for children used.	N/A
	Baby monitors are required to additionally comply with ASTM F2951, Consumer Safety Specification for Baby Monitors.	Not a baby monitors.	N/A
	Storage batteries and battery management equipment, other than associated with lead-acid batteries, and including battery backup systems that are not an integral part of stationary AV and ICT equipment, such as provided in separate cabinets, are required to be certified (listed) to the appropriate standard(s) for such storage batteries and equipment.		N/A
Annex DVA (5.6)	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Considered.	P
Annex DVA (6.3)	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquids within the equipment.	N/A
Annex DVA (6.4.8)	For ITE room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For equipment with the same dimensions for other applications, an external surface that is not a fire enclosure requires a minimum flammability classification of V-1.	No such application.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (10.3)	Equipment with lasers is required to meet the U.S. Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No such parts.	N/A
Annex DVA (10.5)	Equipment that produces ionizing radiation is required to comply with the U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No such parts.	N/A
Annex DVA (F.3.3.4)	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. Additional considerations apply for voltage ratings that exceed the attachment cap rating or that are lower than the "Normal Operating Condition" in Table 2 of CAN/CSA C22.2 No. 235."	Single phase only.	N/A
Annex DVA (F.3.3.6)	Equipment identified for ITE (computer) room installation is required to be marked with the rated current.	Not such application.	N/A
Annex DVA (G.1)	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position, where mounted in an enclosure, vertically mounted disconnect switches and circuit breakers with vertical operating means extending outside the enclosure are required to indicate in a location visible when accessing the external operating means whether the switch or circuit breaker is in the open (off) or closed (on) position.		N/A
Annex DVA (G.3.4)	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.	No standard supply outlets, receptacles, medium-base or smaller lampholders provided.	N/A
	Where a fuse is used to provide Class 2 or Class 3 current limiting, it is not operator-accessible unless it is non-interchangeable.		N/A
Annex DVA (G.4.2)	Equipment with isolated ground (earthing) receptacles is required to comply with NEC 250.146(D) and CEC 10-400 and 10-612.	No such parts.	N/A
Annex DVA (G.4.3)	Interconnection of units by conductors supplied by a limited power source, or a Class 2 circuit defined in the NEC/CEC may have field wiring connections other than specified in DVH.3, such as wire-wrap and crimp-on types, if the limited power source and Class 2 circuits are separated from all other circuits by barriers, routing or fixing.	No such parts.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVA (G.5.3)	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No such parts.	N/A
Annex DVA (G.5.4)	Motor control devices are required for cord-connected equipment with a mains-connected motor if the equipment is rated more than 12 A, or if the equipment has a nominal voltage rating greater than 120 V, or if the motor is rated more than 1/3 hp (locked rotor current over 43 A).	No such parts.	N/A
Annex DVA (G.7)	Flexible cords used outdoors are required to have the suffix "W" marked on the flexible cord.		N/A
Annex DVA (M)	For ITE room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the ITE room remote power-off circuit.	Not such application.	N/A
Annex DVA (Q)	If applicable per NEC 725.121(C), some limited power sources supplied from AV/ICT equipment are required to have a label indicating the maximum voltage and rated current output for per conductor for each connection point. Where multiple connection points have the same rating, a single label is permitted to be used.	Not applicable for the equipment.	N/A
	Wiring terminals intended to supply Class 2 outputs in accordance with the NEC or CEC Part 1 are required to be marked with the voltage rating and "Class 2" or equivalent. The marking is located adjacent to the terminals and visible during wiring.	Not such application.	N/A
	Applicable parts of Chapter 8 of the NEC, and Rules 54 and 60 of the CEC, may be applicable to ITE installed outdoors with connections to communication systems.	Not such application.	N/A
Annex DVB (1)	Additional requirements apply for equipment used for entertainment purposes intended for installation in general patient care areas of health care facilities.	Not such application.	N/A
Annex DVC (1)	Additional requirements apply for equipment intended for mounting under kitchen cabinets.	Not such application.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVE (4.1.1)	Some equipment, components, sub-assemblies and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These equipment and components include: appliance couplers, attachment plugs, battery backup systems, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), direct plug-in equipment, electrochemical capacitor modules (energy storage modules with ultracapacitors), enclosures (outdoor), flexible cords and cables, fuses (branch circuit), ground-fault current interrupters, interconnecting cables, modular data centres, power supply cords, some power distribution equipment, printed wiring, protectors for communications circuits, receptacles, surge protective devices, vehicle battery adapters, wire connectors, and wire and cables.	UL approved components used. Refer to table 4.1.2 of IEC 62368-1 test report for details.	P
Annex DVH	Equipment for permanent connection to the mains supply is subjected to additional requirements.	The equipment is not permanently connected equipment.	N/A
Annex DVH (DVH.1)	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains are required to be in accordance with the NEC/CEC.	Pluggable equipment type A.	N/A
Annex DVH (DVH.2.1)	For safe and reliable connection to a mains, permanently connected equipment is to be provided.		N/A
Annex DVH (DVH.2.2)	Additional considerations for D.C. mains.		N/A
Annex DVH (DVH.3.2.1)	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified.	No terminals for permanent wiring.	N/A
Annex DVH (DVH.3.2.3)	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).	No wire binding screws.	N/A
Annex DVH (DVH.3.2.4)	All associated mains supply terminals are located in proximity to each other and to the main protective earthing terminal, if any.		N/A
Annex DVH (DVH.3.2.5)	Terminals are located, guarded or insulated so that, should a strand of a conductor escape when the conductor is fitted, there is no likelihood of accidental contact between such a strand and accessible conductive parts or unearthed conductive parts separated from accessible conductive parts by supplementary insulation only.		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex DVH (DVH.3.3)	When field connection to an external circuit is via wires (example, free conductors), the wires are not smaller than 18 AWG (0.82 mm ²) and the free length of the wire inside an outlet box or wiring compartment is 150 mm or more.		N/A
Annex DVH (DVH.3.4)	Size of protective earthing conductors and terminals	(See sub-clause 5.6.5)	N/A
Annex DVH (DVH.4)	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	The equipment is not permanently connected equipment.	N/A
Annex DVH (DVH.4.1)	Wire bending space		N/A
Annex DVH (DVH.4.2)	Volume of wiring compartment		N/A
Annex DVH (DVH.4.3)	Separation of circuits		N/A
Annex DVH (DVH.5)	Equipment markings and instructional safeguards		N/A
Annex DVH (DVH.5.1)	Identification of protective earthing terminal		N/A
Annex DVH (DVH.5.2)	Identification of terminal for earthed conductor (neutral)		N/A
Annex DVH (DVH.5.3)	Identification of terminals for aluminium conductors		N/A
Annex DVH (DVH.5.4)	Wire temperature ratings		N/A
Annex DVH (DVH.5.5)	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.	The equipment not connected to a centralized d.c. power system.	N/A
Annex DVI (6.7)	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses.	No TNV circuits within the equipment.	N/A
Annex DVJ (10.6.1)	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.	No TNV circuits within the equipment.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 62368-1:2018

SAUDI ARABIA NATIONAL DIFFERENCES

(Audio/video, information and communication technology equipment Part 1: Safety requirements)

Differences according to : National standard SASO-IEC 62368-1:2020

TRF template used: : IECEE OD-2020-F3, Ed. 1.1

Attachment Form No...... : SA_ND_IEC62368_1E

Attachment Originator..... : SASO

Master Attachment..... : 2022-12-22

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	National Differences		P
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	Plugs used for pluggable equipment comply with standard SASO-2203.	Shall be evaluated when national approval.	N/A
--	Frequency (Hz)		P
	60 Hz	50/60Hz	P
--	Rated voltage (V)		P
	Single phase 230 V Three phase 400 V	100-240V~	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 62368-1:2018

JAPAN NATIONAL DIFFERENCES

Audio/video, information and communication technology equipment – Part 1: Safety requirements

Differences according to: J62368-1(2023)

TRF template used: : IEC62368-1:2018, Ed. 1.2

Attachment Form No...... : JP_ND_IEC62368_1E

Attachment Originator..... : UL Solutions (JP)

Master Attachment..... : Dated 2023-05-12

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	National Differences	—
4.1.2	Where the component, or a characteristic of a component, is a safeguard or a part of a safeguard, components shall comply with the requirements of this document or, where specified in a requirements clause, with the safety aspects of the relevant JIS component standards or IEC component standards, or components shall have properties equivalent to or better than these.	P
5.6.1	Mains socket-outlet and interconnection coupler shall comply with Clause G.4.2A if they are incorporated as part of the equipment.	N/A
5.6.2.1	Connection for protective conductor of class 0I equipment provided with instructional safeguard in accordance with Clause F.3.6.1A is considered to make earlier and break later than supply connection. Mains plug having a lead wire for protective earthing connection of class 0I equipment shall comply with all of the following: <ul style="list-style-type: none">– Not to be used for equipment having a rated voltage of 150 V or more– Clip is not used for the earthing connection of the lead wire.– The lead wire for earthing is at least 10 cm long If class 0I equipment provides an independent main protective earthing terminal and is intended to be installed by ordinary person, earthing wire shall be provided in the package of the equipment.	N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.6.2.2	Internal earthing conductor of the cord set that is covered by the sheath of mains cord and is formed together with mains plug and appliance connector need not be green-and-yellow.		N/A
5.6.3	In case of class 0I equipment using power supply cord having two conductors (no earthing conductor), the conductor of protective earthing lead wire shall comply with either of the following: – use of annealed copper wire with 1.6 mm diameter or corrosion-inhibiting metal wire having size and strength that are equivalent to or more than the above copper wire – single core cord or single core cab tire cable with 1.25 mm ² or more cross-sectional area		N/A
5.7.3	For class 0I equipment that is provided with mains socket-outlet in the configuration as specified in JIS C 8282 series, JIS C 8300 or JIS C 8303, or that is provided with mains appliance outlet as specified in JIS C 8283 series for the purpose of interconnection, the measurement is conducted on the system of the interconnected equipment having a single connection to the mains.		N/A
5.7.5	In case of class 0I equipment, touch current shall not exceed 1.41 mA peak or for sinusoidal wave, 1.0 mA r.m.s. when measured using the network specified in Figure 4 of IEC 60990:2016.		N/A
6.4.3.2	A fuse complying with JIC C 6575 series or a fuse having equivalent characteristics shall open within 1 s. A fuse having time/current characteristics other than those specified in IEC 60127 shall be tested with the characteristics taken into account. In case of Class A fuse of JIS C 6575, replace "2.1 times" by "1.35 times" and in case of Class B fuse of JIS C 6575, replace "2.1 times" by "1.6 times".	Test with appliance	P
8.5.4.3.1	Only three-phase stationary equipment rated more than AC 200 V can be considered as being for use in locations where children are not likely to be present, when complying with Clause F.4.		N/A
8.5.4.3.2	For equipment installed where children may be present, an instructional safeguard shall be provided by easily understandable wording in accordance with Clause F.5, except that element 3 is optional.		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.5.4.3.4	The media destruction device is tested according to Clause V.1.2 with applicable jointed test probes to the opening. And then the wedge probe per Figure V.4 shall not contact any moving part.		N/A
8.5.4.3.5	The wedge probe of Figure V.4 and applicable jointed test probes specified in Clause V.1.2 shall not contact any moving part. Instructional safeguard shall not be used instead of equipment safeguard for preventing access to hazardous moving parts.		N/A
F.3.5.1	When the mains socket-outlet is configured in accordance with JIS C 8282 series, JIS C 8300 or JIS C 8303, the assigned current or power shall be marked. If the voltage of the socket-outlet is the same as the mains voltage, the voltage need not be marked. Instructional safeguard of Class 0I equipment shall be provided with an instructional safeguard in accordance with Clause F.5 when a mains socket-outlet as specified in JIS C 8282 series, JIS C 8300 or JIS C 8303 to which class I equipment can be connected is provided in accordance with Clause G.4.2A except for the cases where the socket-outlet is accessible only to skilled persons.		N/A
F.3.5.3	If the fuse is necessary for the safeguard function, the symbols indicating pre-arc time-current characteristic shall be included.		N/A
F.3.6.1A	Marking for class 0I equipment The requirements of Clauses F.3.6.1.1 and F.3.6.1.2 shall be applied to class 0I equipment. For class 0I equipment, a marking of instructions shall be provided regarding the earthing connection. In addition to the above, for class 0I equipment, an instruction to connect earthing before and disconnect earthing after the connection of supply conductors shall be marked on the visible place of the main body or shall be in the text of an accompanying document.		N/A
F.3.6.2	Symbols, IEC 60417-5172 (2003-02) or IEC 60417-6092 (2011-10), shall not be used for class I equipment or class 0I equipment.		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
F.3.8A	<p>Attention marking for aging deterioration of CRT television</p> <p>Year of manufacture, standard usage period by design according to JIS C 9921-5 and cautionary statement for possible risks of aging deterioration when used beyond the specified period shall be marked on CRT television except for industrial use CRT television.</p>		N/A
F.4	<p>For audio equipment with terminals classified as ES3 in accordance with Table E.1, and for other equipment with terminals marked in accordance with F.3.6.1 and F.3.6.1A, the instructions shall require that the external wiring connected to these terminals shall be installed by a skilled person, or shall be connected by means of ready-made leads or cords that are constructed in a way that would prevent contact with any ES3 circuit.</p> <p>For class 0I equipment provided with independent main protective earthing terminal, where the cord for the protective earthing connection is not provided in the package of the equipment, if the protective earthing connection is made by instructed person or skilled person, the suitable installation instruction for the protective earthing connection shall be provided.</p>		N/A
G.3.2.1	The thermal link when tested as a separate component, shall comply with the requirements of JIS C 6691 or have properties equivalent to or better than that.	No such component	N/A
G.3.4	<p>Except for devices covered by Clause G.3.5, overcurrent protective devices used as a safeguard shall comply with the applicable JIS or IEC standard in accordance with 4.1.2 or shall have equivalent or better properties.</p> <p>Such a protective device shall have adequate breaking (rupturing) capacity to interrupt the maximum fault current (including short-circuit current) that can flow.</p>		P
G.4.1	This requirement does not apply to connectors covered in Clauses G.4.2 and G.4.2A.		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.4.2	<p>Mains connectors, mains plugs and socket-outlets shall comply with JIS C 8283 series, JIS C 8285, IEC 60309 series, JIS C 8282 series, JIS C 8300, JIS C 8303, or have equivalent or better properties.</p> <p>A power supply cord set provided with appliance connector that can fit appliance inlet complying with JIS C 8283-1 shall comply with JIS C 8286.</p> <p>Construction shall prevent mechanical stress not to transmit to the soldering part of appliance inlet terminal.</p> <p>When an equipment is rated not more than 125 V and all of the following are met, Type C14 and C18 appliance inlet complying with JIS C 8283-3 can be considered as rated 15 A.</p> <ul style="list-style-type: none"> – The temperature of appliance inlet does not exceed the value specified in JIS C 8283-1 under the most unfavourable normal operating condition as specified in Clause B.2.1. – "Use only designated cord set attached in this equipment" or equivalent text is described in the operating instruction. If the cord set is not provided in the package of the equipment, suitable information regarding to the cord set is described in the operating instruction. 	Should be evaluated in national approval	N/A
G.4.2A	Mains socket-outlet and interconnection coupler provided with the class II, class I and class 0I equipment respectively		N/A
G.7.1	A mains supply cord need not include the protective earthing conductor for class 0I equipment provided with independent protective earthing conductor.		N/A
G.7.2 Table G.7	Cross-sectional area of equipment rated up to and including 3 A shall be 0.75 mm ² .		N/A
G.7.6.1 Table G.9	<p>The cross-sectional area of mains cords according to JIS C 3010 may comply with relevant Japanese wiring regulation.</p> <p>For cables other than those complying with JIS C 3662 series or JIS C 3663 series, the terminals shall be suitable for the size of the intended cables.</p>		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 62368-1

(AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES
(Audio/video, information and communication technology equipment)

Differences according to..... : AS/NZS 62368.1:2022

TRF template used: : IECEE OD-2020-F3, Ed. 1.1

Attachment Form No. : AU_NZ_ND_IEC62368_1E

Attachment Originator : JAS-ANZ

Master Attachment : 2022-07-01

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	National Differences	
Appendix ZZ	Variations to IEC 62368-1:2018 (ED. 3.0) for Australia and New Zealand	P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2018 (ED. 3.0)	P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:	P
2	<p>After the first paragraph, add the following: The Australian or Australian/New Zealand Standards listed below are modified adoptions of, or not equivalent to, the IEC normative references and are required for the application of this Standard. All references in the source text to those IEC normative references shall be replaced by references to the corresponding Australian or Australian/New Zealand Standards. Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably</p> <ul style="list-style-type: none"> -AS/NZS 3112, <i>Approval and test specification—Plugs and socket-outlets</i> -AS/NZS 3123, <i>Approval and test specification—Plugs, socket-outlets and couplers for general industrial application</i> -AS/NZS 3191, <i>Electric flexible cords</i> -AS/NZS 60884.1. Plugs and socket-outlets for household and similar purposes, Part 1: General requirements -IEC 60086-2 Primary batteries — Part 2: Physical and electrical specifications -AS/NZS 60065, <i>Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)</i> -AS/NZS 60320.1, <i>Appliance couplers for household and similar general purposes,</i> 	P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><i>Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)</i></p> <p>-AS/NZS 60320.2.2, <i>Appliance couplers for household and similar general purposes</i></p> <p><i>Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)</i></p> <p>-AS/NZS 60695.2.11, <i>Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products</i></p> <p>-AS/NZS 60695.11.5, <i>Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance</i></p> <p>-AS/NZS 60695.11.10, <i>Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods</i></p> <p>-AS/NZS 60884.1, <i>Plugs and socket-outlets for household and similar purposes, Part 1: General requirements</i></p> <p>-AS/NZS 60950.1, <i>Information technology equipment—Safety, Part 1: General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)</i></p> <p>IEC 61032:1997, <i>Protection of persons and equipment by enclosures—Probes for verification</i></p> <p>-AS/NZS 61558.1, <i>Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 3, MOD)</i></p> <p>-AS/NZS 61558.2.16, <i>Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.</i></p>		
4.7.2	<p>Requirements</p> <p><i>Delete the text of the second paragraph and replace with the following:</i></p> <p>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet conforming to AS/NZS 3112, shall conform to the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.</p> <p>Conformity is checked by inspection and, if necessary, by the tests in AS/NZS 3112.</p> <p>NOTE: Equipment with plug portions for use in countries other than Australia and New Zealand will need to conform to other countries' requirements</p> <p>Note Additional AS/NZS 3112 Appendix J,TRF is appended to end of this TRF.</p>		P
4.7.3	<p>Compliance Criteria</p> <p><i>Delete this clause</i></p>		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.8.1	General After second list, <i>add</i> the following: NOTE: Refer to the Consumer Goods (Products Containing Button/Coin Batteries) Safety Standard 2020 and Consumer Goods (Products Containing Button/Coin Batteries) Information Standard 2020 for more information on button cell batteries in Australia..		N/A
5.4.10.2.1	General <i>Delete</i> the first paragraph and <i>replace</i> with the following: In Australia, the separation is checked by the test given in both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test given in either 5.4.10.2.2 or 5.4.10.2.3..		N/A
Table 28	<i>Delete</i> Table 28 and <i>replace</i> with the following:		N/A
Parts	Impulse test		Steady state test
	New Zealand	Australia	New Zealand Austral ia
Parts indicated in Clause 5.4.10.1 a) ^a	2.5 kV	7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment.	1.5 kV 3 kV
Parts indicated in Clause 5.4.10.1 b) and c) ^b	1.5 kV ^c		1.0 kV 1.5 kV
^a Surge suppressors shall not be removed. ^b Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment. ^c During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.			
5.4.10.2.2	<i>Delete</i> “NOTE” and <i>replace</i> with “NOTE 1”. After NOTE 1, <i>add</i> the following: NOTE 2: For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 3: For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
5.4.10.2.3	<i>Delete</i> “NOTE” and <i>replace</i> with “NOTE 1”. After NOTE 1, <i>add</i> the following: NOTE 2: For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 3: The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
6	Electrically-caused fire		P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.6	After Clause 6.6, add the new Clauses 6.201 as follows: 6.201 External power supplies, docking stations and other similar devices (see special national conditions)		P
8.6	Stability of equipment		N/A
Table 36	Footnote ^a , after first sentence, add the following: Equipment having displays with moving images shall include “television sets and display devices”.		N/A
8.6.1	After Clause 8.6.1 add the following new clauses: 8.6.201 Restraining Device fixing point (see special national conditions) 8.6.202 Restraining device (see special national conditions)		N/A
Annex F Paragraph F.3.3.4	Rated Voltage <i>Delete “NOTE” and replace with NOTE1”</i> After NOTE 1, add the following Equipment that is intended for connection to the supply mains in Australia and New Zealand shall be marked with: (a) A rated voltage of: <ul style="list-style-type: none">• 230 V for single phase equipment• 400 V for poly phase equipment Or (b) A rated voltage range that includes: <ul style="list-style-type: none">• 230 V for single phase equipment• 400 V for poly phase equipment NOTE 2: equipment that is not rated as above is not suitable for direct connection to the supply mains in Australia or New Zealand.	100-240V~	P
Annex F.3.3.5	After the list, add the following Equipment that is intended for connection to supply mains in Australia or New Zealand shall be marked with a rated frequency of 50 Hz or a rated frequency range or nominal value which includes 50Hz	50/60Hz	P
Annex F.3.8	After “The DC output of an external power supply”, insert “or docking stations and other similar external devices”		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Annex G Paragraph G.4.2	Mains connectors 1 After "IEC 60320", insert "or AS/NZS 60320 series". 2 After "IEC 60906-1", insert "or AS/NZS 3123" 3 <i>After first paragraph add the following:</i> 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.		P
Paragraph G.5.3.1	Transformers, General 1 Third dashed point <i>replace 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2'</i> 2 Fourth dashed point <i>replace 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'</i> .	Transformer meets the requirements given in G.5.3.2 and G.5.3.3	N/A
Annex G.7.1	Mains supply cords, General Fourth dashed paragraph, <i>replace 'IEC 60320-1' with 'AS/NZS 60320.1'</i>		N/A
Table G.7	Sizes of conductors 1 First column, second row, <i>delete "6" and replace with "7.5"</i> 2 Second column, second row, <i>delete '0.75' and replace with '0.75^b</i> 3 <i>Delete NOTE 1.</i> 4 <i>Replace 'NOTE 2' with 'NOTE:'.</i> 5 <i>Delete 'Footnote b' and replace with the following:</i> ^b This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm ²) three-core supply flexible cords are not permitted; see AS/NZS 3191. 6 Footnote c <i>replace 'IEC 60320-1' with 'AS/NZS 60320.1'</i> 7 Footnote d <i>replace 'IEC 60320-1' with 'AS/NZS 60320.1'</i>		N/A
Annex M M 2.1	Add "IEC 60086-2" to the list		N/A
Annex M Paragraph M.3.2	Test method Delete "NOTE" and replace with "NOTE 1" After NOTE 1 <i>add the following:</i> NOTE 2: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of ES1 may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
	Special national conditions (if any)		P

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.201	<p>External power supplies, docking stations and other similar devices</p> <p>For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage—</p> <ul style="list-style-type: none"> (a) at all ES1 outlets or connectors shall not increase by more than 10 % of the output rated voltage under normal operating conditions, measured after 3 s of introducing a single fault condition and after 3 s of introducing abnormal operating conditions; and (b) of a USB outlet or connector shall not increase by more than 3 V or 10 % of the output rated voltage under normal operating conditions, whichever is higher, measured after 3 seconds of introducing a single fault condition and after 3 s of introducing abnormal operating conditions <p>For equipment with multiple rated voltages at the output, the requirements apply with the equipment configured for each output rated voltage in turn</p> <p>NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. The 3 s measurement delay is based on IEC document 108/742/INF, <i>TC 108, Standards Interpretation Panel Question 15—Output voltage</i>, in relation to similar requirements in IEC 62368-3:2017.</p> <p>Conformity shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single fault conditions of Annex B.4.</p>	See appended table B.3 and B.4 of test report for details.	P
8.6.201	<p>Restraining device fixing point</p> <p>Freestanding-capable MS2 and MS3 television sets and display devices shall be provided with a fixing point to facilitate the anchoring of the equipment from toppling</p> <p>The fixing point shall conform to Clause 8.7 where the fixing point uses a wall, ceiling or other structure mount. Alternatively, the fixing point shall be capable of withstanding a pull equal to the mass of the equipment in all directions without damage</p> <p>Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point</p>		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.202	<p>Restraining device</p> <p>MS2 and MS3 television sets and display devices shall be provided with a restraining device and associated hardware to attach to the television set or display device.</p> <p>The restraining device shall be capable of withstanding a pull equal to the mass of the equipment in all directions.</p> <p>Instructions for installation or instructions for use shall be provided to specify correct use of the fixing point .</p>		N/A

IEC62368_1E - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT

IEC 62368-1:2018

Republic of Korea NATIONAL DIFFERENCES

Audio/video, information and communication technology equipment - Part 1: Safety requirements

Differences according to: KC 62368-1(2021-08)

TRF template used: : IECEE OD-2020-F3, Ed. 1.2

Attachment Form No...... : KR_ND_IEC62368_1E

Attachment Originator..... : KTL

Master Attachment..... : 2024-09-02

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	National Differences		
4.1.1	As of January 1, 2023, internal and external components and subassemblies that comply with IEC 60950-1 or IEC 60065 are not acceptable if those components and subassemblies mandates KC certification.		P
G.4.2	Plugs for the connection of the apparatus to the supply main shall comply with the Korean requirement (KS C 8305 or KC 60884-1 or KC 60799).		P
Special national conditions (if any)			
Voltage	The marking of rated voltage or rated voltage range, for appliances intended to be connected to the supply mains, shall include 110 V, 220 V or 380 V.	100-240V~	P
Frequency	Only appliances having supply frequency of 60 Hz or a frequency range including 60 Hz are accepted.	50/60Hz	P
Instruction	Instruction manuals and appliance marking related safety, including nameplate shall be in Korean	Shall be evaluated when national approval	N/A

EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

European plug portion test (for fixed EU plug portion DYS-EU)

6	Marking	P
	Appliances shall be marked as follows:	Incorporated with adaptor.
	Rated current in amperes (A)	P
	Rated Voltage in volts (V)	P
	Symbol for nature of supply (~)	P
	Name, trade mark or idendification mark of manufacturer or responsible vendor	P
	Type reference	P

7	Dimensions	P
	Plug shall comply with Standard Sheet 1	P
	Between two pins (pin base)	18.0 – 19.2 mm
	Between two pins (pin top)	17.0 – 18.0 mm
	Diameter of pin (metallic part)	4 ^{± 0.06} mm
	Diameter of pin (pin base)	max. 4.0 mm
	Distance from the engagement face of the plug	max. 4.0 mm
	Diameter of pin (middle part)	max. 3.8 mm
	Pin length	19 ^{± 0.5} mm
	Length of pin except metal part	10 ^{+ 1.0} mm
	Shape of pin top	Round shape mm
	Length of plug base	35.3 ^{± 0.7} mm
	Width of plug base	13.7 ^{± 0.7} mm
	Diagonal dimension of plug base within a distance of 18mm	26.1 ^{± 0.5} mm 26.1 ^{± 0.5} mm
	Angle	45°
	Radius	R 5 -0, +1 mm

8	Protection against electric shock	P
8.1	Live parts of the plug not accessible (standard test finger)	Incorporated with adaptor.
8.2	No connection between one plug-pin and socket outlet	P
8.3	External parts of insulating material	P

9	Construction	P
9.1	Plugs are not rewirable	Incorporated with adaptor.
9.2	Switches, fuse, lampholder not incorporated	P
9.3	Solid pins	See clause 13

EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
	Adequate mechanical strength	All source of material listed in report were considered.	P
9.4	Pins locked against rotation	See clause 13.1 & 13.4. All source of material listed in report were considered.	P
	Adequate fixed into the body		P
9.5	Kind of connection		P
9.6	Easily to be withdrawn from socket-outlet	Incorporated with adaptor	P
10	Resistance to humidity		P
	-Humidity treatment for 48 hours	Tested with adaptor.	P
11	Insulation resistance and electric strength		P
11.1	Insulation resistance (500V, min 5MΩ)	200MΩ	P
11.2	Electric strength (2000V)	(see appended table)	P
13	Mechanical strength		P
13.1	Pressed with 150N for 5 min		P
13.2	Tumbling barrel test according to DIN VDE 0620-2-1. Number of falls.....:	Weight: 95g 1000 times falls was conducted according to DIN VDE 0620-2-1:2013, item 24.2. Three samples tested. After the test, it was fulfilled the requirements of DIN VDE 0620-101:1992 item 7 figure 2 "gauge for interchangeability" and no damage. All source of material listed in report were considered.	P
	No damages after the test		P
	Requirements of clause 7 and 8.2 still fulfilled		P
13.3	Rubbing test of plug-pins: 10000 cycles, 4N		P
	No damage of the pins		P
13.4	Pull test at 70°C with 40N		P
	Pins not more than 1 mm displaced	Displacement: 0.21mm All source of material listed in report were considered.	P
14	Resistance to heat and to aging		P
14.1	Sufficient resistant to heat	Incorporated with adaptor. All source of material listed in report were considered.	P

EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
14.1.1	After 1 h in heating cabinet at 100°C no damage shown	Tested with adaptor. All source of material listed in report were considered.	P
14.1.2	After 1 h in heating cabinet at 80°C and a force of 20N through the jaws no damage shown	All source of material listed in report were considered.	P
14.2	Aging test	All source of material listed in report were considered.	P
	-at 70°C for 168h		P
	-at room temperature for 96h		P
	No traces of cloth at a force of 5N		P
	No damage leads to non-compliance		P
15	Current-carrying parts and connections resistance to heat and to aging		P
15.1	Connections withstand the mechanical stresses occurring in normal use	All source of material listed in report were considered.	P
15.2	Contact pressure not through isolating material		P
15.3	Current carrying parts of copper		P
	No electroplated coating when part is subjected to mechanical wear		P
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion		N/A
16	Creepage distances, clearances and distances through insulation		P
	Live parts of different polarity: 3mm	14.10mm	P
	Through insulation between live parts and accessible surfaces: 1.5mm	1.91mm	P
17	Resistance of insulation material to abnormal heat and fire		P
	Insulating material not unduly affected by abnormal heat and by fire	(see appended table) All source of material listed in report were considered.	P

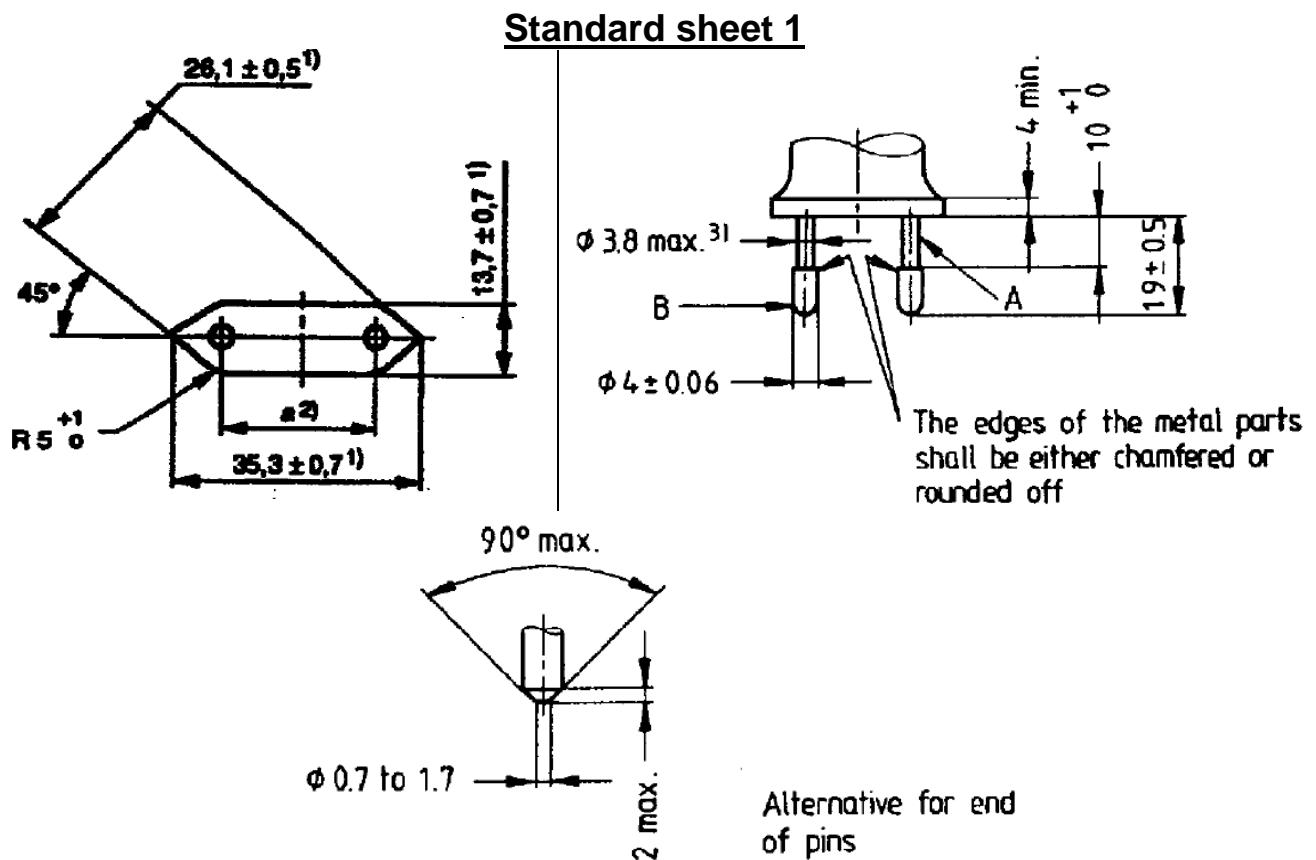
EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

11.1	TABLE: Insulation resistance measurements	P
Measured between:	Result	
Pins connected together and the body ($\geq 5M\Omega$)	200M Ω	P
Each pins in turn and the other, the latter being connected to the body ($\geq 5M\Omega$)	200M Ω	P
Note:		

11.2	TABLE: electric strength measurements	P
Test voltage applied between:	Test voltage (V)	Break down
Pins connected together and the body	2000VAC	No
Each pins in turn and the other, the latter being connected to the body	2000VAC	No
Note:		

17.3	TABLE: Resistance of insulating material to abnormal heat and to fire	P
Parts that retain current-carrying parts in position: 750°C		P
Other parts: 650°C		P
Note:		

EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict



Dimensions in millimetres

A = insulating collar

B = metal pin

¹⁾ These dimensions shall not be exceeded within a distance of 18 mm from the engagement face of the plug.

²⁾ Dimension *a* is:

18 mm to 19.2 mm in the plane of the engagement face;

17 mm to 18 mm at the ends of the pins.

³⁾ This dimension may be increased to 4 mm within a distance of 4 mm from the engagement face of the plug.

Pin ends shall be rounded, or conical as shown in detail sketch.

The sketches are not intended to govern design except as regards the dimensions shown.

EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

European plug portion test (for fixed EU plug portion DYS40K-EU)

6	Marking	P
	Appliances shall be marked as follows:	Incorporated with adaptor.
	Rated current in amperes (A)	P
	Rated Voltage in volts (V)	P
	Symbol for nature of supply (~)	P
	Name, trade mark or idendification mark of manufacturer or responsible vendor	P
	Type reference	P

7	Dimensions	P
	Plug shall comply with Standard Sheet 1	P
	Between two pins (pin base)	18.0 – 19.2 mm
	Between two pins (pin top)	17.0 – 18.0 mm
	Diameter of pin (metallic part)	4 ^{± 0.06} mm
	Diameter of pin (pin base)	max. 4.0 mm
	Distance from the engagement face of the plug	max. 4.0 mm
	Diameter of pin (middle part)	max. 3.8 mm
	Pin length	19 ^{± 0.5} mm
	Length of pin except metal part	10 ^{+ 1.0} mm
	Shape of pin top	Round shape mm
	Length of plug base	35.3 ^{± 0.7} mm
	Width of plug base	13.7 ^{± 0.7} mm
	Diagonal dimension of plug base within a distance of 18mm	26.1 ^{± 0.5} mm 26.1 ^{± 0.5} mm
	Angle	45°
	Radius	R 5 -0, +1 mm

8	Protection against electric shock	P
8.1	Live parts of the plug not accessible (standard test finger)	Incorporated with adaptor.
8.2	No connection between one plug-pin and socket outlet	P
8.3	External parts of insulating material	P

9	Construction	P
9.1	Plugs are not rewirable	Incorporated with adaptor.
9.2	Switches, fuse, lampholder not incorporated	P

EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
9.3	Solid pins	See clause 13	P
	Adequate mechanical strength	All source of material listed in report were considered.	P
9.4	Pins locked against rotation	See clause 13.1 & 13.4. All source of material listed in report were considered.	P
	Adequate fixed into the body		P
9.5	Kind of connection		P
9.6	Easily to be withdrawn from socket-outlet	Incorporated with adaptor	P
10	Resistance to humidity		P
	-Humidity treatment for 48 hours	Tested with adaptor.	P
11	Insulation resistance and electric strength		P
11.1	Insulation resistance (500V, min 5MΩ)	200MΩ	P
11.2	Electric strength (2000V)	(see appended table)	P
13	Mechanical strength		P
13.1	Pressed with 150N for 5 min		P
13.2	Tumbling barrel test according to DIN VDE 0620-2-1. Number of falls.....:	Weight: 102g 500 times falls was conducted according to DIN VDE 0620-2-1:2013, item 24.2. Three samples tested. After the test, it was fulfilled the requirements of DIN VDE 0620-101:1992 item 7 figure 2 "gauge for interchangeability" and no damage. All source of material listed in report were considered.	P
	No damages after the test		P
	Requirements of clause 7 and 8.2 still fulfilled		P
13.3	Rubbing test of plug-pins: 10000 cycles, 4N		P
	No damage of the pins		P
13.4	Pull test at 70°C with 40N		P
	Pins not more than 1 mm displaced	Displacement: 0.25mm All source of material listed in report were considered.	P
14	Resistance to heat and to aging		P

EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
14.1	Sufficient resistant to heat	Incorporated with adaptor. All source of material listed in report were considered.	P
14.1.1	After 1 h in heating cabinet at 100°C no damage shown	Tested with adaptor. All source of material listed in report were considered.	P
14.1.2	After 1 h in heating cabinet at 80°C and a force of 20N through the jaws no damage shown	All source of material listed in report were considered.	P
14.2	Aging test	All source of material listed in report were considered.	P
	-at 70°C for 168h		P
	-at room temperature for 96h		P
	No traces of cloth at a force of 5N		P
	No damage leads to non-compliance		P
15	Current-carrying parts and connections resistance to heat and to aging		P
15.1	Connections withstand the mechanical stresses occurring in normal use	All source of material listed in report were considered.	P
15.2	Contact pressure not through isolating material		P
15.3	Current carrying parts of copper		P
	No electroplated coating when part is subjected to mechanical wear		P
	Other metals having a mechanical strength, an electrical conductivity and a resistance to corrosion		N/A
16	Creepage distances, clearances and distances through insulation		P
	Live parts of different polarity: 3mm	14.18mm	P
	Through insulation between live parts and accessible surfaces: 1.5mm	1.89mm	P
17	Resistance of insulation material to abnormal heat and fire		P
	Insulating material not unduly affected by abnormal heat and by fire	(see appended table) All source of material listed in report were considered.	P

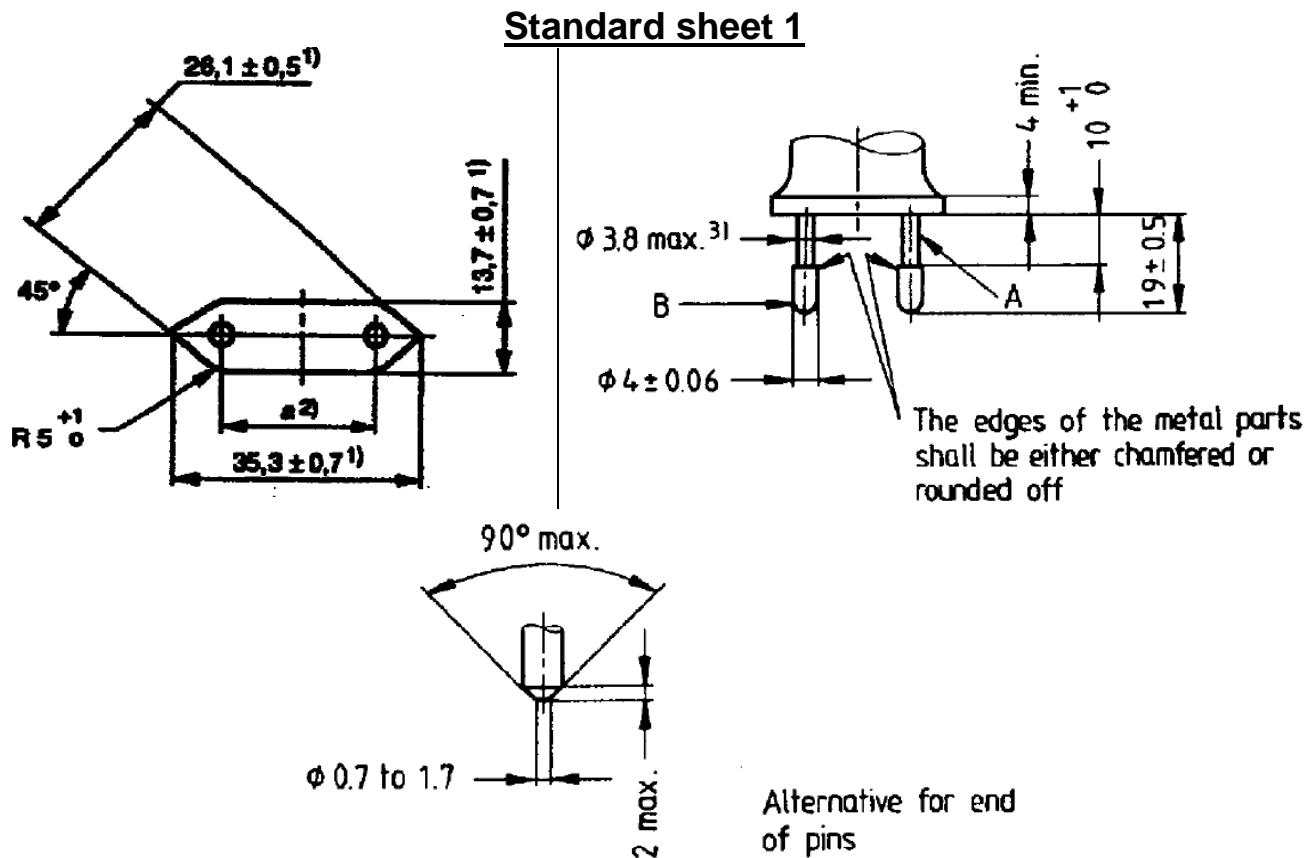
EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

11.1	TABLE: Insulation resistance measurements	P
Measured between:	Result	
Pins connected together and the body ($\geq 5M\Omega$)	200M Ω	P
Each pins in turn and the other, the latter being connected to the body ($\geq 5M\Omega$)	200M Ω	P
Note:		

11.2	TABLE: electric strength measurements	P
Test voltage applied between:	Test voltage (V)	Break down
Pins connected together and the body	2000VAC	No
Each pins in turn and the other, the latter being connected to the body	2000VAC	No
Note:		

17.3	TABLE: Resistance of insulating material to abnormal heat and to fire	P
Parts that retain current-carrying parts in position: 750°C		P
Other parts: 650°C		P
Note:		

EN 50075 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict



Dimensions in millimetres

A = insulating collar

B = metal pin

¹⁾ These dimensions shall not be exceeded within a distance of 18 mm from the engagement face of the plug.

²⁾ Dimension *a* is:

18 mm to 19.2 mm in the plane of the engagement face;

17 mm to 18 mm at the ends of the pins.

³⁾ This dimension may be increased to 4 mm within a distance of 4 mm from the engagement face of the plug.

Pin ends shall be rounded, or conical as shown in detail sketch.

The sketches are not intended to govern design except as regards the dimensions shown.

BS 1363-1: 2016+A1:2018 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
British plug portion test (for fixed UK plug portion DYS-UK):			
12	Construction of Plugs		P
12.1	The disposition of the pins shall be shown as figure 4.	The dispositions of the pins were shown as figure 4.	P
12.2	Pin and sleeve dimensions, body outline were checked according to figure 4 of BS1363: Part 1.	6.48 mm was measured from the engagement surface. (It shall not less than 6.35 mm)	P
		The dimensions were found within the specified limits as shown in figure 4. (please refer to attached appendix 1 for details)	P
	The plug portion shall enter the gauge fully with a force less than 10N was applied to the centre of the sample at right angle	Sample could enter into the gauge fully with a force less than 10 N.	P
12.3	No parts of a line or neutral pin shall be less than 9.5mm from the periphery of the plug measured along the engagement surface.	Complied.	P
12.9	Plug pins were constructed of brass or nickel plated brass	Brass.	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied.	P
12.9.4	The adaptor plug pins were tested as specified in the standard.	SOD PE pin test at 400N; L/N pin test at 1100N. After test the pin portions could fit the relevant gauge.	P
12.9.5	Plugs with nickel plated brass shall not cause excessive wear to socket contacts or shutters of socket-outlets.	See below	P
	Each plug is inserted into and withdrawn from the socket-outlet at a rate of six insertions and six withdrawals per minute, the speed of travel of the plug being approximately 150 mm/s. The periods during which the plug is inserted and withdrawn shall be approximately equal. The plug pins are renewed or a new plug is used after each 5 000 insertions and withdrawals.	The socket-outlet show no sign of damage that would impair further use. The plugs show no damage and conform to the dimensional requirements of 12.2. The shutters of the socket-outlet operate satisfactorily and the socket contacts shall be safely shielded.	P
12.9.6	Each pin of the adapter was subjected to a torque of 1Nm for 60s as specified in the standard.	After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60s to a pull of 100N in the oven.	After the test, no plug pin was detached and the plug pins could fit the relevant gauge.	P

BS 1363-1: 2016+A1:2018 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
12.12	The degree of the flexibility of mounting of the plug pins was checked by inspection	Complied.	P
12.13	Suitable means shall be provided for withdrawing the plug without subjecting the flexible cord to stress.	Complied.	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	Both line and neutral pins were fitted with insulating sleeve.	P
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied.	P
12.17.2	Electric strength test applied between the metal part of the plug pin and the sleeve. (1250V±30V for 60s)		P
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17.2	P
12.17.4	Resistance to deformation The plug pins with sleeves were placed in a heating cabinet at 200°C and tested according to the standard for 120min.	After the test carried out at 200 °C for 120 min, only slightly impression observed, the impressions were less than 50 % of the thickness measured before the test.	P
22.2	Parts of insulating material shall be sufficiently resistant to heat and still shaving its location and function.	Complied. See 22.2.1	P
22.2.1	Compliance checked as follows: a) Parts of ceramic material are used; b) external parts of plugs tested according to 22.1.3; c) all other parts of insulating material including ISOD subjected to the ball pressure at a temperature of 75°C ± 5°C	See appended table 22.2.1	P
23	Resistance to abnormal heat, fire and tracking		P
23.1	Plugs shall be proof against abnormal heat, fire and tracking		P
23.1.1	Compliance shall be checked by the test described in 23.2		P
23.2	Glow-wire test The test is performed according to BS EN 60695-2-11:2014 and at the test temperature given in Table 10 a) Parts necessary to retain live parts in position including ISOD were tested at 750°C. b) Parts not necessary to retain live in position were tested at 650°C.	See appended table 23.2	P
Additional Requirements (Clause 12.2, 12.9.4.3, 12.9.5, 12.9.6, 22.2 and 23) for the ISOD According to the standard BS 1363-1			
12.2	Solid insulated shutter opening device should comply	The measured dimensions	P

BS 1363-1: 2016+A1:2018 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
	all the dimensions specified in Figure 4 with exception of the width of the ISOD should be 4.05 mm maximum and 3.90 mm minimum. and its height which should be 8.05 mm maximum and 7.75 mm minimum	were found to be within the specified limits. (see attached appendix 1 for details)	
12.9.4	Solid insulated shutter opening device were tested as specified in the standard.	After subjected to a force of 400N, the pin portion still could fit the relevant gauge.	P
12.9.5	Plugs with ISOD shall not cause excessive wear to socket contacts or shutters of socket-outlets.	See below	P
	Each plug is inserted into and withdrawn from the socket-outlet at a rate of six insertions and six withdrawals per minute, the speed of travel of the plug being approximately 150 mm/s. The periods during which the plug is inserted and withdrawn shall be approximately equal. The plug pins are renewed or a new plug is used after each 5 000 insertions and withdrawals.	The socket-outlet show no sign of damage that would impair further use. The plugs show no damage and conform to the dimensional requirements of 12.2. The shutters of the socket-outlet operate satisfactorily and the socket contacts shall be safely shielded.	P
12.9.6	ISOD of the adapter was subjected to a torque of 1Nm for 60s as specified in the standard.	After the test, the pin portion could fit the relevant gauge.	P

Additional consideration for the special snap-in construction.

20.1.3	Plugs are tested in the tumbling barrel. a) rewirable plugs marked BS 1363: 1000 falls b) non-rewirable plugs marked BS 1363: 2500 falls c) plugs marked BS 1363/A: 5000 falls d) plugs marked BS 1363/EV: 5000 falls		N/A
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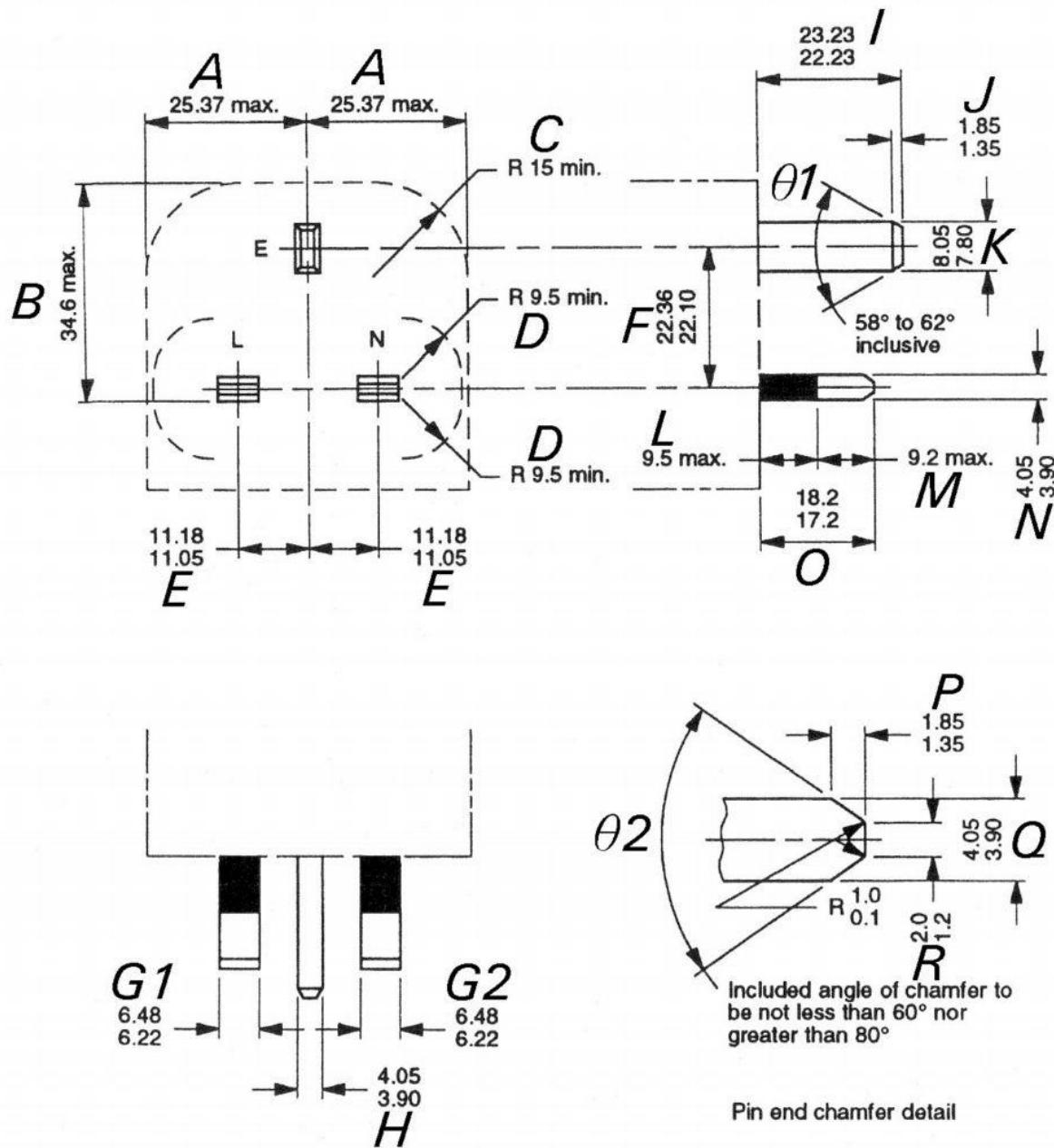
BS 1363-1: 2016+A1:2018 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

23.2	TABLE: Glow-wire-test [60 s]									
Specimen				Flame						
Part	Material	Material-thickness [mm]	Colour	[°C]	Start [s]	End [s]	Height [mm]	Ignition of tissue paper	Result	
Plug holder / pin sleeving material / ISOD material	SABIC INNOVATIVE PLASTICS US L L C / FR6	2.5	black	750	--	--	--	No	Pass	
Enclosure	SABIC INNOVATIVE PLASTICS US L L C / 940(f1)(gg*)	2.5	black	750	--	--	--	No	Pass	
Enclosure	SABIC JAPAN L L C / 945(GG)	2.5	black	750	--	--	--	No	Pass	

BS 1363-1: 2016+A1:2018 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
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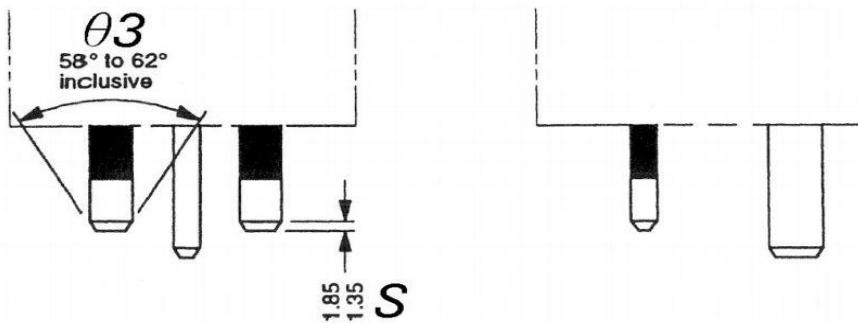
UK plug portion for switching power adapter



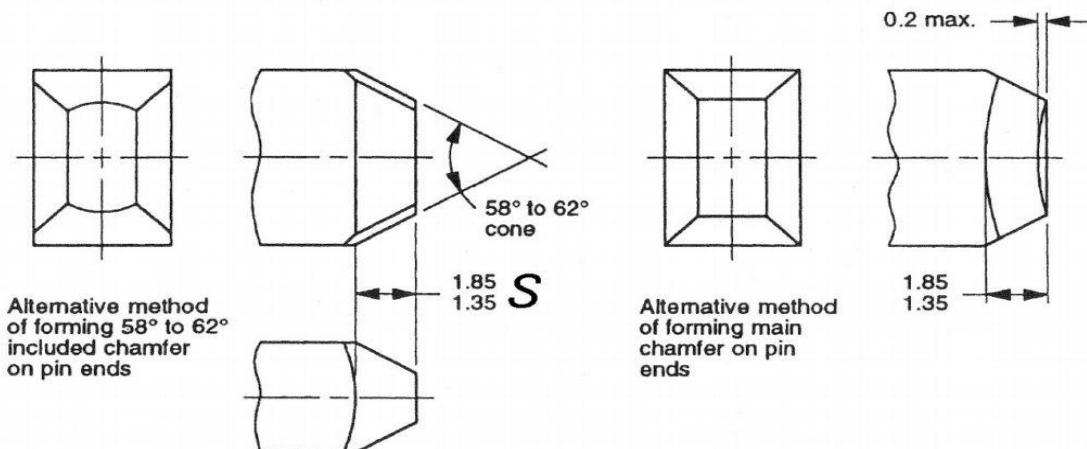
All dimensions are in millimetres.

BS 1363-1: 2016+A1:2018 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
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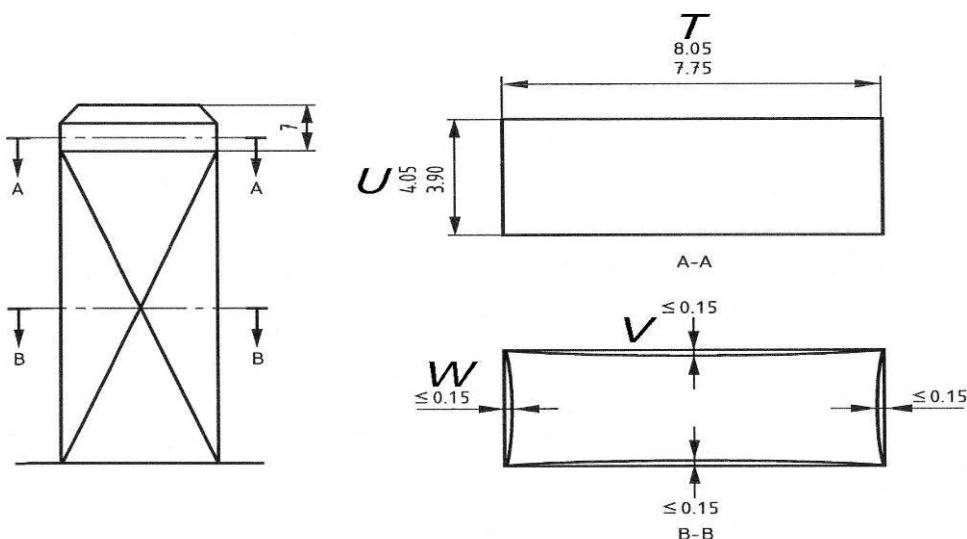
Permitted additional chamfers on L and N pins
(if additional chamfer is used it has to be on both pins)



All dimensions are in millimetres.

NOTE 1. External edges of pins are to be free from burrs or sharp edges and may have a radius not exceeding 1 mm.

NOTE 2. The surfaces of pins are to be flat within the specified tolerances.



Solid insulated shutter opening device (ISOD)

NOTE Section A-A to be measured away from chamfer as shown.

BS 1363-1: 2016+A1:2018 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

Appendix 1 (Refer to 12.2)

13A Plug Portion Dimensions

<u>Linear Dimensions (mm)</u>		<u>Measurement</u>		<u>Limit</u>	<u>Verdict</u>
A	25.07	25.05	25.08	25.37 max.	P
B	33.05	33.02	33.04	34.6 max.	P
C	1) 1)	1) 1)	1) 1)	15 min.	P
D	10.13	10.15	10.14	9.5 min.	P
E (from L to E)	11.09	11.10	11.12	11.05 - 11.18	P
(from N to E)	11.09	11.10	11.12		P
F	22.19	22.18	22.19	22.10 - 22.36	P
G1	6.36	6.35	6.36	6.22 – 6.48	P
G2	6.36	6.36	6.37	6.22 – 6.48	P
H	3.95	3.98	3.97	3.90 – 4.05	P
I	22.63	22.65	22.66	22.23 – 23.23	P
J	1.64	1.66	1.65	1.35 – 1.85	P
K	8.00	7.98	8.01	7.80 – 8.05	P
L (line)	8.67	8.68	8.69	9.5 max.	P
(neutral)	8.72	8.70	8.73		P
M (line)	8.62	8.64	8.63	9.2 max.	P
(neutral)	8.65	8.68	8.67		P
N (line) (sleeve)	4.02	4.01	4.00	3.90 – 4.05	P
(neutral) (sleeve)	4.02	4.00	3.99		P
O (line)	17.29	17.32	17.32	17.20 – 18.20	P
(neutral)	17.37	17.38	17.40		P
P (line)	1.66	1.65	1.66	1.35 – 1.85	P
(neutral)	1.68	1.70	1.67		P
(earth)	1.64	1.65	1.64		P

BS 1363-1: 2016+A1:2018 (Partial)					
Clause	Requirement – Test	Result - Remark		Verdict	
<u>Linear Dimensions (mm)</u>	<u>Measurement</u>			<u>Limit</u>	<u>Verdict</u>
Q (line) (metal)	3.94	3.96	3.97	3.90 – 4.05	P
(neutral) (metal)	3.94	3.94	3.95		P
(earth) (metal)	--	--	--		P
R (line)	1.73	1.75	1.74	1.2 – 2.0	P
(neutral)	1.74	1.76	1.75		P
(earth)	1.57	1.60	1.58		P
S (line/ neutral)	1.66/1.68	1.67/1.66	1.65/1.67	1.35 – 1.85	P
θ1	61.12°	61.35°	60.94°	58° – 62°	P
θ2 (line/ neutral)	70.80°/72.10°	70.83°/72.41°	70.63°/71.95°	60° – 80°	P
(earth)	68.86°	68.56°	68.47°		P
θ3	60.05°	59.82°	60.26°	58° – 62°	P

¹⁾ The outline of the plug is different from shown in figure, but it can insert the gauge fully with a force less than 10 N. So the dimension C is not applicable for the case.

For solid insulated shutter opening device

<u>Linear Dimensions (mm)</u>	<u>Measurement</u>			<u>Limit</u>	<u>Verdict</u>
T	7.92	7.98	8.01	7.75 – 8.05	P
U	3.94	3.98	3.97	3.90 – 4.05	P
V (E → L)	0.12	0.11	0.13	0.15 max.	P
(E → N)	0.11	0.12	0.10	0.15 max.	P
W (E → Top)	0.13	0.10	0.12	0.15 max.	P
(E → L&N)	0.12	0.11	0.11	0.15 max.	P

BS 1363-1: 2016+A1:2018 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
British plug portion test (for detachable UK plug portion DYS40-UK):			
12	Construction of Plugs		P
12.1	The disposition of the pins shall be shown as figure 4.	The dispositions of the pins were shown as figure 4.	P
12.2	Pin and sleeve dimensions, body outline were checked according to figure 4 of BS1363: Part 1.	9.15 mm was measured from the engagement surface. (It shall not less than 6.35 mm)	P
		The dimensions were found within the specified limits as shown in figure 4. (please refer to attached appendix 1 for details)	P
	The plug portion shall enter the gauge fully with a force less than 10N was applied to the centre of the sample at right angle	Sample could enter into the gauge fully with a force less than 10 N.	P
12.3	No parts of a line or neutral pin shall be less than 9.5mm from the periphery of the plug measured along the engagement surface.	Complied.	P
12.9	Plug pins were constructed of brass or nickel plated brass	Brass.	P
12.9.1	Exposed surface of plug pins were smooth and free from burrs or sharp edges and other irregularities, which could cause damage or excessive wear to sockets or shutters.	Complied.	P
12.9.4	The adaptor plug pins were tested as specified in the standard.	ISOD PE pin test at 400N; L/N pin test at 1100N. After test the pin portions could fit the relevant gauge.	P
12.9.5	Plugs with nickel plated brass shall not cause excessive wear to socket contacts or shutters of socket-outlets.	See below	P
	Each plug is inserted into and withdrawn from the socket-outlet at a rate of six insertions and six withdrawals per minute, the speed of travel of the plug being approximately 150 mm/s. The periods during which the plug is inserted and withdrawn shall be approximately equal. The plug pins are renewed or a new plug is used after each 5 000 insertions and withdrawals.	The socket-outlet show no sign of damage that would impair further use. The plugs show no damage and conform to the dimensional requirements of 12.2. The shutters of the socket-outlet operate satisfactorily and the socket contacts shall be safely shielded.	P
12.9.6	Each pin of the adapter was subjected to a torque of 1Nm for 60s as specified in the standard.	After the test, the pin portion could fit the relevant gauge.	P
12.11	The adaptors were tested as specified in standard. After being placed in an oven at 70°C for 1 hour, each pin of the samples was subjected for 60s to a pull of 100N in the oven.	After the test, no plug pin was detached and the plug pins could fit the relevant gauge.	P

BS 1363-1: 2016+A1:2018 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
12.12	The degree of the flexibility of mounting of the plug pins was checked by inspection	Complied.	P
12.13	Suitable means shall be provided for withdrawing the plug without subjecting the flexible cord to stress.	Complied.	P
12.16	Line and neutral plug pin shall be fitted with insulating sleeves. The dimensions of the pin and sleeve shall fall within the specific limit.	Both line and neutral pins were fitted with insulating sleeve.	P
12.17.1	Plug pin sleeve shall be compliance with 12.17.2 to 12.17.4	Complied.	P
12.17.2	Electric strength test applied between the metal part of the plug pin and the sleeve. (1250V±30V for 60s)		P
12.17.3	Abrasion test for plug pin sleeve The plug pin sleeves were subjected to 20000 movements of abrasion as specified in the standard.	After the test, the sleeves showed no damage that impaired further use and could satisfy the electric strength test in 12.17.2	P
12.17.4	Resistance to deformation The plug pins with sleeves were placed in a heating cabinet at 200°C and tested according to the standard for 120min.	After the test carried out at 200 °C for 120 min, only slightly impression observed, the impressions were less than 50 % of the thickness measured before the test.	P
22.2	Parts of insulating material shall be sufficiently resistant to heat and still shaving its location and function.	Complied. See 22.2.1	P
22.2.1	Compliance checked as follows: a) Parts of ceramic material are used; b) external parts of plugs tested according to 22.1.3; c) all other parts of insulating material including ISOD subjected to the ball pressure at a temperature of 75°C ± 5°C	See appended table 22.2.1	P
23	Resistance to abnormal heat, fire and tracking		P
23.1	Plugs shall be proof against abnormal heat, fire and tracking		P
23.1.1	Compliance shall be checked by the test described in 23.2		P
23.2	Glow-wire test The test is performed according to BS EN 60695-2-11:2014 and at the test temperature given in Table 10 c) Parts necessary to retain live parts in position including ISOD were tested at 750°C. d) Parts not necessary to retain live in position were tested at 650°C.	See appended table 23.2	P
Additional Requirements (Clause 12.2, 12.9.4.3, 12.9.5, 12.9.6, 22.2 and 23) for the ISOD According to the standard BS 1363-1			
12.2	Solid insulated shutter opening device should comply	The measured dimensions	P

BS 1363-1: 2016+A1:2018 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
	all the dimensions specified in Figure 4 with exception of the width of the ISOD should be 4.05 mm maximum and 3.90 mm minimum. and its height which should be 8.05 mm maximum and 7.75 mm minimum	were found to be within the specified limits. (see attached appendix 1 for details)	
12.9.4	Solid insulated shutter opening device were tested as specified in the standard.	After subjected to a force of 400N, the pin portion still could fit the relevant gauge.	P
12.9.5	Plugs with ISOD shall not cause excessive wear to socket contacts or shutters of socket-outlets.	See below	P
	Each plug is inserted into and withdrawn from the socket-outlet at a rate of six insertions and six withdrawals per minute, the speed of travel of the plug being approximately 150 mm/s. The periods during which the plug is inserted and withdrawn shall be approximately equal. The plug pins are renewed or a new plug is used after each 5 000 insertions and withdrawals.	The socket-outlet show no sign of damage that would impair further use. The plugs show no damage and conform to the dimensional requirements of 12.2. The shutters of the socket-outlet operate satisfactorily and the socket contacts shall be safely shielded.	P
12.9.6	ISOD of the adapter was subjected to a torque of 1Nm for 60s as specified in the standard.	After the test, the pin portion could fit the relevant gauge.	P

Additional consideration for the special snap-in construction.

20.1.3	Plugs are tested in the tumbling barrel. a) rewirable plugs marked BS 1363: 1000 falls b) non-rewirable plugs marked BS 1363: 2500 falls c) plugs marked BS 1363/A: 5000 falls d) plugs marked BS 1363/EV: 5000 falls		N/A
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BS 1363-1: 2016+A1:2018 (Partial)							
Clause	Requirement – Test			Result - Remark		Verdict	

22.2.1	TABLE: Ball-pressure test							
Specimen				Ball-pressure test				
Part	Material	Material-thickness [mm]	Colour	[C°]	Measured [mm]	Required [mm]	Result	
L/N pin sleeving / ISOD material	SABIC INNOVATIVE PLASTICS US L L C / FR6	2.5	black	125	0.99	< 2.0	Pass	

Supplementary information: --

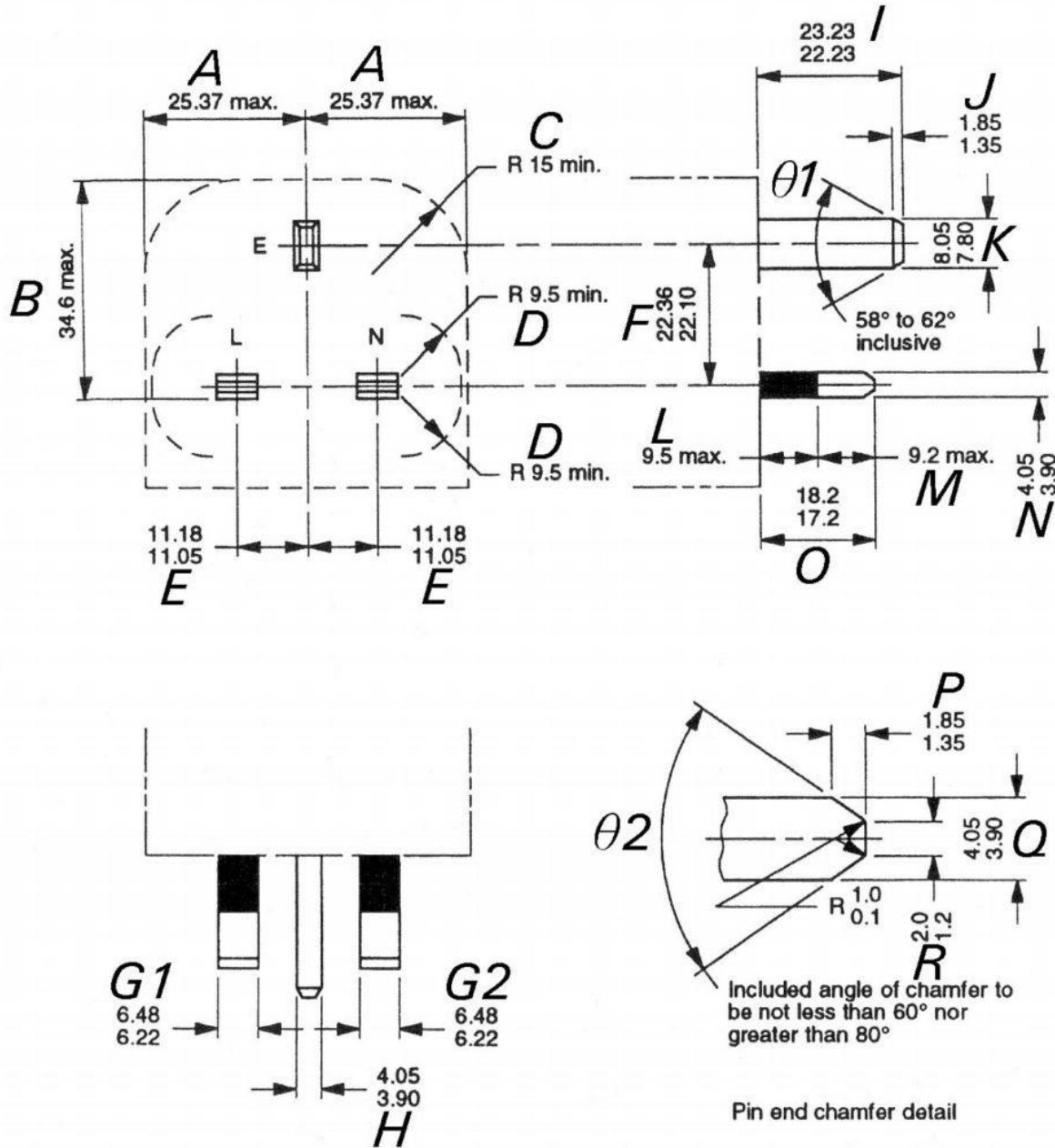
23.2	TABLE: Glow-wire-test [60 s]								
Specimen				Flame					
Part	Material	Material-thickness [mm]	Colour	[°C]	Start [s]	End [s]	Height [mm]	Ignition of tissue paper	Result
Plug holder / pin sleeving material / ISOD material	SABIC INNOVATIVE PLASTICS US L L C / FR6	2.5	black	750	--	--	--	No	Pass
Enclosure	SABIC INNOVATIVE PLASTICS US L L C / 940(f1)(gg*)	2.5	black	750	--	--	--	No	Pass
Enclosure	SABIC JAPAN L L C / 945(GG)	2.5	black	750	--	--	--	No	Pass

Supplementary information: --

BS 1363-1: 2016+A1:2018 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
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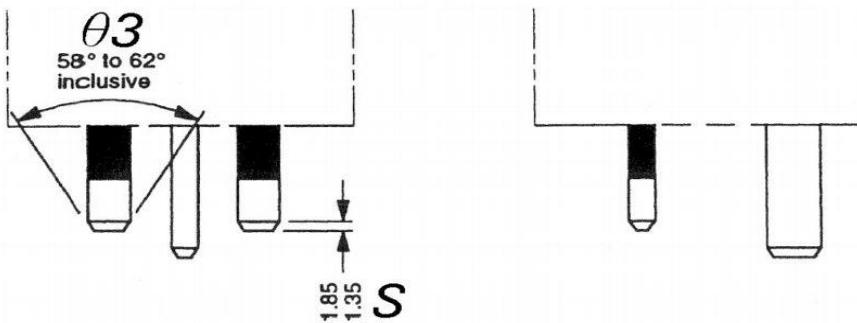
UK plug portion for switching power adapter



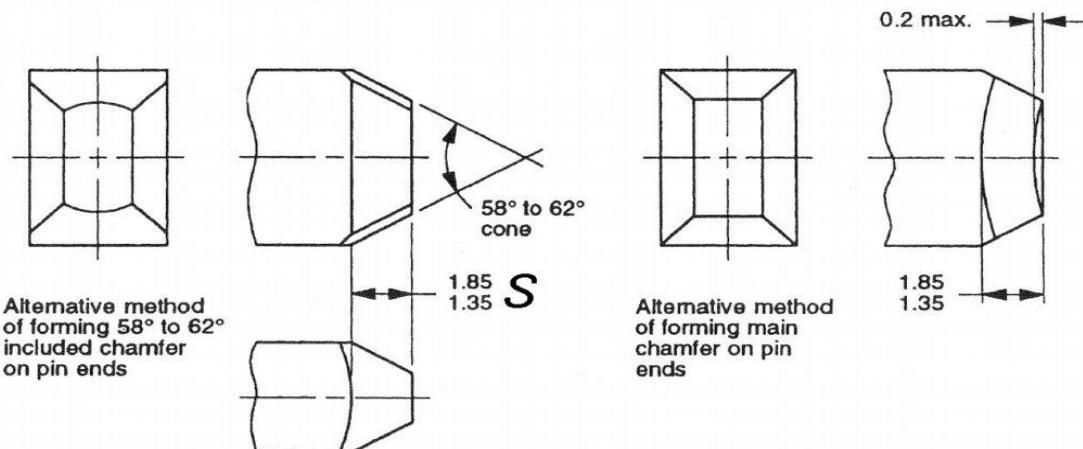
All dimensions are in millimetres.

BS 1363-1: 2016+A1:2018 (Partial)

Clause	Requirement – Test	Result - Remark	Verdict
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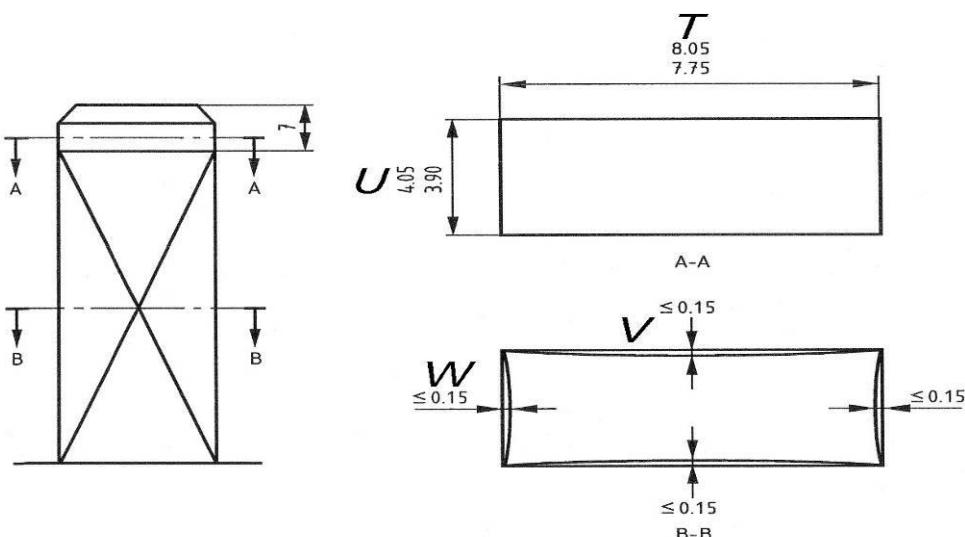
Permitted additional chamfers on L and N pins
(if additional chamfer is used it has to be on both pins)



All dimensions are in millimetres.

NOTE 1. External edges of pins are to be free from burrs or sharp edges and may have a radius not exceeding 1 mm.

NOTE 2. The surfaces of pins are to be flat within the specified tolerances.



Solid insulated shutter opening device (ISOD)

NOTE Section A-A to be measured away from chamfer as shown.

BS 1363-1: 2016+A1:2018 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

Appendix 1 (Refer to 12.2)

13A Plug Portion Dimensions

<u>Linear Dimensions (mm)</u>		<u>Measurement</u>		<u>Limit</u>	<u>Verdict</u>
A	24.26	24.25	24.27	25.37 max.	P
B	31.15	31.13	31.14	34.6 max.	P
C	1) 1)	1) 1)	1) 1)	15 min.	P
D	9.69	9.71	9.72	9.5 min.	P
E (from L to E)	11.10	11.12	11.11	11.05 - 11.18	P
(from N to E)	11.10	11.12	11.11		P
F	22.18	22.20	22.18	22.10 - 22.36	P
G1	6.32	6.33	6.34	6.22 – 6.48	P
G2	6.32	6.34	6.35	6.22 – 6.48	P
H	3.95	3.95	3.97	3.90 – 4.05	P
I	22.72	22.70	22.71	22.23 – 23.23	P
J	1.51	1.52	1.53	1.35 – 1.85	P
K	7.92	7.90	7.93	7.80 – 8.05	P
L (line)	9.27	9.28	9.29	9.5 max.	P
(neutral)	9.35	9.37	9.36		P
M (line)	8.50	8.52	8.52	9.2 max.	P
(neutral)	8.58	8.60	8.61		P
N (line) (sleeve)	4.02	4.00	3.99	3.90 – 4.05	P
(neutral) (sleeve)	4.00	3.98	3.99		P
O (line)	17.77	17.80	17.81	17.20 – 18.20	P
(neutral)	17.93	17.97	17.97		P
P (line)	1.79	1.81	1.80	1.35 – 1.85	P
(neutral)	1.81	1.80	1.81		P
(earth)	1.47	1.49	1.50		P

BS 1363-1: 2016+A1:2018 (Partial)					
Clause	Requirement – Test	Result - Remark		Verdict	
<u>Linear Dimensions (mm)</u>	<u>Measurement</u>			<u>Limit</u>	<u>Verdict</u>
Q (line) (metal)	3.96	3.98	3.99	3.90 – 4.05	P
(neutral) (metal)	3.95	3.96	3.94		P
(earth) (metal)	--	--	--		P
R (line)	1.63	1.64	1.66	1.2 – 2.0	P
(neutral)	1.59	1.62	1.60		P
(earth)	1.65	1.66	1.67		P
S (line/ neutral)	1.47/1.49	1.45/1.50	1.46/1.51	1.35 – 1.85	P
θ1	58.87°	59.16°	59.33°	58° – 62°	P
θ2 (line/ neutral)	69.83°/67.79°	69.48°/67.41°	69.57°/68.14°	60° – 80°	P
(earth)	70.20°	70.36°	69.82°		P
θ3	59.35°	59.63°	59.52°	58° – 62°	P

¹⁾ The outline of the plug is different from shown in figure, but it can insert the gauge fully with a force less than 10 N. So the dimension C is not applicable for the case.

For solid insulated shutter opening device

<u>Linear Dimensions (mm)</u>	<u>Measurement</u>			<u>Limit</u>	<u>Verdict</u>
T	7.92	7.90	7.93	7.75 – 8.05	P
U	3.94	3.95	3.97	3.90 – 4.05	P
V (E → L)	0.12	0.11	0.13	0.15 max.	P
(E → N)	0.11	0.13	0.12	0.15 max.	P
W (E → Top)	0.13	0.11	0.11	0.15 max.	P
(E → L&N)	0.12	0.10	0.12	0.15 max.	P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT AS_NZS_3112:2017_+A1:2021 Appendix J AUSTRALIAN / NEW ZEALAND NATIONAL DIFFERENCES (Approval and test specification—Plugs and socket-outlets)
Differences according to : AS_NZS_3112:2017_Amendment 1:2021_Appendix J
TRF template used: : IEC60068-2-20-2020-F3, Ed. 1.1
Attachment Form No. : AS_NZS_3112:2017_Appendix J
Attachment Originator : JAS-ANZ
Master Attachment : 2022-06
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Note: AS/NZS 3112 is NOT covered by IECEE Accreditation for Testing / Reporting Please State Laboratory Accreditation for this Standard	P
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--	Accreditation	Dongguan Lepont Testing Service Co., Ltd. (China) (L10100)	--
--	Accreditation stamp	CNAS	--

APPENDIX J INTEGRAL OR DETACHABLE PLUG PORTIONS OF EQUIPMENT FOR INSERTION INTO SOCKET-OUTLETS	P
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AU plug portion test for fixed AU plug portion DYS-AU	
J1 SCOPE	<p>General: This Appendix specifies additional dimensional and constructional requirements for detachable plug portions, or equipment incorporating integral supply pins or equipment incorporating detachable plug portions.</p> <p>This Appendix shall be read in conjunction with Section 2 of this Standard (AS/NZS 3112:2017+A1:2021).</p> <p>For the purposes of this Appendix, where the term 'plug' is used in Section 2 of this Standard (AS/NZS 3112:2017+A1:2021) it shall be taken to mean the plug portion of equipment or the detachable plug portion.</p> <p>The equipment shall comply with the relevant product Standard. The tests and requirements specified in this Appendix are in addition to any test and requirements of the relevant product Standard for the equipment. (AS/NZS 3112:2017/A1:2021)</p>

J2	DEFINITION	P
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AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
J2.1	<p>Detachable plug portion</p> <p>A plug portion that is detachable from the equipment and with connections including the following standardized outputs and other contacts</p> <p>(a) Type A (see Figure J1): A detachable plug portion with a connection intended for plugging directly into equipment. The connection being via the equipment group 1 appliance inlet within the scope of AS/NZS 60320.1.</p> <p>(b) Type B (see Figure J2): A detachable plug portion with a non-standardized connection intended for plugging directly into equipment</p> <p>(c) Type C (see Figure J3): A detachable plug portion with a connection intended for use with an adaptor connected to a flexible cord so as to replicate a supply plug and flexible cord configuration. The connection being via a group 1 appliance outlet within scope of AS/NZS 60320.2.2, which is integral with the plug portion (AS/NZS 3112:2017)</p>		N/A
J2.2	<p>Integral plug portion</p> <p>A plug portion that is integral to the equipment enclosure and is not detachable (AS/NZS 3112:2017)</p>		P
J2.3	<p>Plug portion</p> <p>A plug portion is that portion of equipment with pins for insertion into a socket-outlet, including the plug pins, terminals of the plug pins, external dimensions of the ‘maximum projection’ and any connections of a detachable plug portion. (AS/NZS 3112:2017/A1:2021)</p>		P
J3	REQUIREMENTS FOR THE PLUG PORTION		P
J3.1	<p>General</p> <p>The following provisions apply to the dimensional and constructional requirements of plug portions of equipment and any detachable connection between the plug portion and the equipment:</p>		P
(a)	For detachable plug portions intended for connection to the equipment in multiple orientations, the relevant tests are performed in the most onerous orientation.		N/A
(b)	For Type A detachable plug portion, the relevant requirements of AS/NZS 3105:2014 are applicable, in addition to conformance with relevant clauses of this Appendix		N/A
(c)	For Type B detachable plug portions, the conformance is shown by the relevant clauses of this Appendix.		N/A
(d)	For Type C detachable plug portions, conformance is shown by assessment to Section 2 of this Standard (plugs) and relevant clauses of this Appendix (AS/NZS 3112:2017)		N/A
J3.2	Plug pins of plug portions The requirements of Clause 2.2 are applicable for plug pins.		P
2.2	PLUG PINS		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
2.2.1	Current carrying parts of plug pins of metal having sufficient mechanical strength, electrical conductivity and resistance to corrosion adequate for the intended use		P
	Plug pin material?	Copper alloy with copper content: min. 58%.	--
2.2.3	Plug pins adequately proportioned throughout and portion adjacent to the connection designed to not introduce a stress concentration which may lead to a fracture of the pin, and suitably shaped to prevent abrasion or cutting of conductor strands due to flexure in normal use	It can easily enter into the gauge without additional force applied. No sharp edges	P
	Exposed ends of plug pins have a lead-in, bevel or radius to facilitate entry into socket-outlets and to operate shutters	See below	P
	Flat-pins with the following profile are deemed to comply:		--
(a)	Flat-pins with a radius on the end with side bevels may have a width and thickness profile as specified in Figure 2.1(h)	See appendix 1	P
(b)	Flat-pins square on the end with corner and side bevels may have a width and thickness profile as specified in Figure 2.1(i)	Flat-pins with radius on the end with side bevels	N/A
(c)	Flat-pins square on the end with corner bevels and a radius on the sides may have a width and thickness profile as specified in Figure 2.1(j)	Flat-pins with radius on the end with side bevels	N/A
	Contact portion of the pins smooth and free from openings or indentations	Smooth, no seam	P
	Flat pin plugs having a longitudinal seam or opening in the contact portion of one face; width not exceeding 0.3 mm and	See appendix 1	P
	Thickness not exceeding 1.58 mm	See appendix 1	P
	Exposed portion of earthing pins and pins other than insulated pins free from any non-metallic coverings or coatings (AS/NZS 3112:2017)	No earthing pins	N/A
2.2.4	Live parts of insulated pin plugs not exposed when plug is partially or fully engaged with associated socket		P
	Compliance by measurement to Figure 2.4	(see appended table)	P
	Lacquer, enamel or sprayed insulating coating not considered to be insulation material	No such materials used	P
	All live pins on low voltage plugs except for those shown in Figure 2.1 (a2), (b) and (g) of the insulated pin type	Insulated pin sleeve used	P
	Colour green or green / yellow not used for insulation of insulated pins (AS/NZS 3112:2017)	No such materials used	P
J3.3	Ratings and dimensions for low-voltage plug portions Requirements of clauses 2.8.1 and 2.8.4 apply for rating and dimensions		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
2.8	Ratings and Dimensions of Low Voltage Plugs		P
2.8.1	Plugs with ratings up to and including 20A; shall conform to the appropriate dimensions shown in Figure 2.1	(see appended results)	P
	Rating of plug	0.8A	--
	Nominal dimensions covering disposition of pins checked by gauge of Appendix A	Two-pin plug. Complying with Figure 2.1(c), (e)	P
	Distance between live pin and edge of moulding to not less than 9 mm	See below	P
	Measured distance	10.58mm	--
	No point on plug face protrudes more than 0.5 mm	See below	P
	Measured protrusion	No point on the front face of the plug with protrusion	--
	Dimensional requirements of Figure 2.1(e2) did not applied to plugs with greater than three pins (AS/NZS 3112:2017)	Two-pin plug.	P
2.8.4	Low voltage plugs comply with dimensions of Figure 2.1	(see appended table 2.8.1)	P
	Disposition of pins checked by gauge complying with Appendix A, B or F as appropriate		P
	Low voltage plug having rating up to 15A and of the Figure 2.1 (a1), (c), (d), (f) or (g) type; comply with dimensional requirements of Figure 2.1 (e1 and e2)	Two-pin plug. Complying with Figure 2.1(c), (e).	P
	20A plug of Figure 2.1 (a2) type complies with dimensional requirements of Figure 2.1 (e2)		N/A
	Plugs with insulated pins need not comply with dimension R20.0 ± 1 mm requirement of Figure 2.1 (e3) provided there is at least 9mm from the edge of the live pins to the edge of the plug face Figure 2.1(e3). (AS/NZS 3112:2017)		N/A
J3.4	Internal connections for plug portions Requirements of clause 2.9 apply for internal connections, unless requirements contained in the relevant product standard (AS/NZS 3112:2017)		N/A
2.9	INTERNAL CONNECTIONS		N/A
	Plug provided with earthing connections designed and constructed so that when plug is correctly wired and assembled:		N/A
(a)	Loose terminal screw or conductive material cannot bridge any live or earthed parts	Two-pin plug without earthing connections	N/A
(b)	Earthing parts effectively isolated from contact with live conductor which may become detached		N/A
(c)	Live parts effectively isolated from contact with any earthing conductor which may become detached		N/A
	Any connections for auxiliary devices comply with above requirements (AS/NZS 3112:2017)		N/A

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
J3.5	Arrangement of earthing connections for plug portions Requirements of clause 2.10 apply for arrangement of earthing connections		N/A
2.10	Arrangement of earthing connections		N/A
	Earthing pin radial to the circle embracing the pins (AS/NZS 3112:2017)	Two-pin plug without earthing connections	N/A
J3.6	Configuration of plug portions Requirements of clause 2.12.6 apply for configuration of the plug portion (AS/NZS 3112:2017)		P
2.12	Marking		P
2.12.6	Configuration of plugs		P
	Pins disposed so that configuration, as viewed from the pins, is earth, neutral and active in a clockwise direction	Conforming to figure 2.1(c)	P
	Where there is no earthing pin; live pins conform to this configuration (AS/NZS 3112:2017)	Two-pin plug	N/A
J4	Tests		P
J4.1	General Plug portions of equipment shall be subjected to the following tests and unless stated otherwise, shall comply with the requirements specified in Section 2 for each test. The number of test samples shall be in accordance with Table J1 For equipment with a detachable plug portion, the assessment(s) of Table J1 tests 2, 3, 5, 10 and 11 shall be conducted on the— (a) assembled equipment with the detachable plug portion connected; and (b) the detachable plug portion after it has been separated from the equipment (AS/NZS 3112:2017/A1:2021)		P
J4.2	High voltage test The requirements of Clause 2.13.3 are applicable unless requirements are contained in the relevant product standard (AS/NZS 3112:2017)		P
2.13.3	Test No.1 - High voltage test		P
	Plug withstands without failure electric strength test as specified (AS/NZS 3112:2017)	(see appended table)	P
J4.3	Mechanical strength		P
J4.3.1	Tumbling barrel test The tumbling barrel test is applied to determine the mechanical strength of the plug portions and equipment having integral or detachable plug portions. For equipment with a detachable plug portion, the detachable plug portion may become detached during the test. If this occurs the detachable plug portion shall be reassembled with the equipment when the pins are straightened as per (a) and (b) below. Three samples (Samples BCD in Table J1) that have not been subjected to any previous test are tested as specified in <u>Clause 2.13.7.1</u> , however the test is modified as follows:		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
	<p>They are tested in a tumbling barrel as described in AS 60068.2.32 or test Free fall repeated – Procedure 2 in IEC 60068-2.31.</p> <p>The samples shall be dropped from a height of 500 mm onto a steel plate, 3 mm thick. The barrel shall be turned at a rate of 5 r/min, to yield 10 falls per minute. Only one sample shall be tested at a time.</p> <p>A sample is dropped—</p> <p>(a) 500 times if the mass of the specimen does not exceed 250 g. The pins being straightened after each 100 drops and at the completion of the test to pass through the appropriate gauge of <u>Figure A1</u>, <u>Figure B1</u> or <u>Figure F1</u>; and</p> <p>(b) 250 times if the mass of the specimen exceeds 250 g. The pins being straightened after each 25 drops and at the completion of the test to pass through the appropriate gauge of <u>Figures A1</u>, <u>Figure B1</u> or <u>Figure F1</u>.</p> <p>(AS/NZS 3112:2017/A1:2021)</p>		P
	Mass of sample	_98.1_Grams	P
	Number of drops	500	P
	Compliance shall be checked by <u>Paragraph J4.3.3</u>	(See appended table)	P
J4.3.2	<p>Test No.3 Impact test.</p> <p>Plug portions and equipment having integral plug portions or detachable plug portions shall withstand lateral impact forces.</p> <p>All samples that were subjected to the tests in <u>Paragraph J4.3.1</u> (Samples BCD in Table J1) shall be tested as follows:</p>		P
	(a) The sample shall be positioned at the centre of a steel plate with a thickness of at least 6 mm. Apertures in the steel plate for the plug pins to pass through shall conform to the corresponding socket Standard. The sample shall be held against the steel plate by clamping all the pins.		P
	(b) Samples shall be subjected to blows, with an impact energy of 1.0 ± 0.05 J by any means having the same performance as the spring-operated impact-test apparatus of AS/NZS 3100.		P
	(c) Three blows shall be applied to every point that is most likely to directly or indirectly stress the enclosure joints of the sample		P
	Compliance shall be checked by <u>Paragraph J4.3.3</u>		P
J4.3.3	<p>Specific compliance criteria</p> <p>This Paragraph provides the common compliance assessment criteria for tests specified in <u>Paragraphs J4.3.1</u> and <u>J4.3.2</u>.</p>		P
	Following each test, the samples shall comply with <u>Clause 2.13.7.1</u>		P
(a)	assembled equipment with the detachable plug portion connected;		N/A
	After the test, samples show no damage	(See appended table)	N/A
(b)	the detachable plug portion after it has been separated from the equipment.		N/A
	After the test, samples show no damage	(See appended table)	N/A

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
4.3.4	<p>Pin bending test</p> <p>The pins of the plug portion of three samples (Samples EFG in Table J1) not subjected to any previous tests shall be tested for compliance with the pin bending test of <u>Clause 2.13.7.2 (AS/NZS 3112:2017/A1:2021)</u></p>		P
2.13.7.2	<p>Test No.4 – Pin bending test</p> <p>All flat-pin plugs rated up to and including 15 A shall be subjected to the pin bending test</p>		P
	<p>Three samples are subjected by clamping the plug in a rigid holding block and applying the bending force as specified</p>		P
	<p>After the test the pins shall not be broken off. (AS/NZS 3112:2017)</p>		P
J4.8.3	<p>Test No.5 Plug portion detachment requirements</p> <p>For all Type B or C devices and for Type A devices where the outlet of the detachable plug portion is parallel to the plug supply pins, disengagement of the detachable plug portion from the equipment shall require at least two simultaneous independent actions or the use of a tool.</p> <p>The plug portion and the equipment/adaptor shall be connected and disconnected 50 times (100 strokes).</p>		N/A
	<p>Compliance is verified by the plugging test, a force which, over a period of 10 s, shall be increased steadily to 60 ± 0.6 N and held at this value for a further 10 s, shall be applied evenly at the connecting equipment in a direction parallel to the pins. This procedure shall be conducted three times on the same plug portion, at intervals of 5 min, without disturbing the plug portions between tests</p>		N/A
	<p>During the test the plug portion shall not separate</p>		N/A
	<p>The test of AS/NZS 3112 ‘temperature rise test’ for plugs shall be conducted immediately after the above test without disturbing the sample. Test No 6 Temperature Rise test J4.4 (AS/NZS 3112:2017/A1:2021)</p>		N/A
J4.4	<p>Temperature rise test</p> <p>The relevant requirements of <u>Clause 2.13.8</u> are applicable for the temperature rise test, except that the test current shall be that specified in the relevant product standard</p>		P
	<p>The temperature rise of the pins shall not exceed 45 K irrespective of the temperature rise of parts specified in end-product standards.</p>		P
	<p>For detachable plug portions the temperature rise of terminals and contacts shall not exceed 45 K. (AS/NZS 3112:2017)</p>		N/A
2.13.8	<p>Test No.6 – Temperature rise test</p>		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
	Plug tested in draught free environment as specified using clamping units as specified in Figure 2.10		P
	Test Current Relevant Product Standard	_0.88_ Amps	P
	Temperature of terminals and contacts of detachable plug portion not exceeding 45 K (AS/NZS 3112:2017)	(see appended table)	P
J4.5	Securement of pins of the plug portion The requirements of <u>Clause 2.13.9</u> are applicable for the securement of pins. (AS/NZS 3112:2017)		P
2.13.9	Test No.7. Securement of pins		P
2.13.9.1	Movement of pins		P
	Plug pins clamped 5 ± 0.5 mm from pin face; test equipment and sample pre-conditioning for 1 h at $40 \pm 1^\circ\text{C}$		P
	Force of 18 ± 1 N applied to pin 14 ± 0.5 mm from plug face; applied gradually over 10 s and maintained for 10 s; applied in four directions		P
	Maximum deflection during test not exceeding 2.0 mm	(see appended results)	P
	Any distortion 5 minutes after test does not prevent insertion of plug into standard gauge(s) (AS/NZS 3112:2017 + A1:2021)	After test it can still be inserted in the standard gauge shown in Appendix A, Appendix B or Appendix F, as appropriate, without the application of undue force	P
2.13.9.2	Fixing of pins		P
	Plug heated to $50 \pm 2^\circ\text{C}$ for 1h		P
	Force of 60 ± 0.6 N applied to each pin over 10 s and maintained for 10 minutes; applied in two directions along length of pin		P
	Maximum displacement during test not exceeding 2.4 mm	See below	P
	Maximum measured displacement	No displacements on any pins of plug were observed	--
	Pin returns to within 0.8 mm of nominal length within 5 minutes of removal of test force (AS/NZS 3112:2017)	No displacements on any pins of plug were observed	P
J4.6	Tests on the insulation material of insulated pin-plug portions The requirements of <u>Clause 2.13.13</u> are applicable for insulating material of insulated plug pins. (AS/NZS 3112:2017)		P
2.13.13	Test No.8 Tests for insulation material of insulated pin plugs		P
2.13.13.1	Material of pin-insulation resistant to stresses at temperature likely to occur		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
2.13.13.2	Pressure test at high temperature		P
	Specimen tested as per Figure 2.5 with force of 2.5 N applied as specified; maintained for 2 h at $160 \pm 5^\circ\text{C}$; removed and cooled by immersion in water within 10 s		P
	Thickness of insulation at point of impression not reduced by more than 50%	Thickness of insulation after test reduced by 29.55%	P
	Initial thickness	0.44 mm	--
	Thickness after test	0.31 mm	--
	No visible cracks on insulation material	Compliance checked	P
	Dimension of insulating material not below minimum size in Figure 2.4 (AS/NZS 3112:2017)	Compliance checked	P
2.13.13.3	Static damp heat test		P
	Specimen subjected to two damp heat cycles in accordance with IEC 60068-2-30; Db (12 + 12h), 95% RH, $25 \pm 3^\circ\text{C}$; 40°C		P
	After this treatment and recovery to room temperature; specimen subjected to:		P
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	P
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	P
(c)	Abrasion test in accordance with clause 2.13.13.6		P
2.13.13.4	Low temperature test		P
	Plug maintained at $-15 \pm 2^\circ\text{C}$ for minimum of 24 h and returned to room temperature; after which specimen subjected to:		P
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	P
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	P
(c)	Abrasion test in accordance with clause 2.13.13.6		P
2.13.13.5	Impact test at low temperature		P
	Specimen maintained at $-15 \pm 2^\circ\text{C}$ for 24 h		P
	Specimen placed in position and subjected to impact test as per Figure 2.6; mass of 100 ± 1 g falling through 100 mm		P
	Four impacts applied; specimen rotated through 90° between impacts		P
	After return to room temperature; no visible cracks of insulating material		P
2.13.13.6	Abrasion test		P
	Plug held in clamp and tested as per Figure 2.7; pin loaded at 4 N; 20 000 movements		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
	After test; pins show no damage affecting safety or impairing further use of the plug		P
	Insulating sleeve not punctured or rucked up (AS/NZS 3112:2017)	No rucked up or punctured of insulating sleeve observed	P
J4.7	Test no.9 Equipment with a plug portion intended to be supported by the contacts of a socket-outlet		P
	Equipment with pins intended to be introduced into fixed socket-outlets not imposing undue strain on socket-outlet		P
	Applied torque not exceeding 0.25 Nm		P
	Measured torque (AS/NZS 3112:2017)	0.040Nm	--
J4.8	Additional requirements for detachable plug portions		N/A
J4.8.1	Test no.10 Access to live parts		N/A
	Small test finger of Figure 13 of IEC 61032 was not possible to contact live parts with the force of 20N		N/A
	incorrectly assemble the plug portion was not possible (AS/NZS 3112:2017)		N/A
J4.8.2	Test No.11 Construction of detachable contacts where the input current of the equipment exceeds 0.2 A		N/A
	Contacts of the equipment shall be such that they make and maintain, under normal service conditions, satisfactory electrical and mechanical contact with the corresponding contact of the detachable plug portion.		N/A
	For connections intended to accommodate pins, contact shall be made on two surfaces diametrically opposite, except if a single spring-assisted contact is used. (AS/NZS 3112:2017/A1:2021)		N/A
	Contacts shall not rely exclusively on the resilience of the contact material and shall have an opposite face of material other than thermoplastic or resilient insulating material. (AS/NZS 3112:2017/ A1:2021)		N/A
	The alignment and contact-making properties of contacts shall be independent of terminal screws		N/A
	The effectiveness of the contacts shall be independent of pressure from any thermoplastic or resilient moulding.		N/A
	A visual inspection is conducted to determine the existence of interference between the metal contacts and the thermoplastic or resilient moulding to provide supplementary contact pressure to the metal contacts.		N/A
	Conformance of the effectiveness of the contacts is checked by inspection and by the inspection and tests in J4.8.3 (AS/NZS 3112:2017)		N/A
J4.8.4	Resistance of insulating material to heat and fire		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
J4.8.4.1	<p>Test no.12 Resistance to heat For Type B detachable plug portions parts of non-metallic material, parts of insulating material supporting live parts including connections, and parts of thermoplastic material providing supplementary insulation or reinforced insulation, shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this Standard.</p>		N/A
	Ball pressure test conducted in accordance with IEC 60695-10-2		N/A
(a)	75°C ± 2°C, for external parts;		N/A
(b)	125°C ± 2°C, for parts supporting live parts.		N/A
J4.8.4.2	<p>Test no.13 Resistance to fire</p>		P
	Plug portions comply with resistance to fire requirements of AS/NZS 3100 Annex A as follows:		P
	The glow wire test temperature 'T' for 'retaining parts' of fixed socket outlets shall be 750°C (AS/NZS 3112:2017)		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict

TABLES OF RESULTS

2.2.4	TABLE: Dimensions of insulation on insulated pin plugs	P
Dimension (Figure 2.1 designation)	Measured (mm)	Allowed (mm)
Phase pin	8.88	8.7 ± 0.5
Neutral pin	8.88	8.7 ± 0.5

2.8.1	TABLE: Dimensions of plugs- 10A (a1)	P
Dimension (Figure 2.1 designation)	Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)	6.34	6.35 ± 0.15
Earth pin width (B)	--	6.35 ± 0.15
Pin thickness (C)	1.61	1.63 + 0.15, -0.05
Pin disposition (D)	Fit with gauge	checked by test gauge
Pin disposition (E)	Fit with gauge	checked by test gauge
Phase and neutral pin length (F)	16.82	17.06 ± 0.4
Earth pin length (G)	--	19.94 ± 0.8
Pin boss radius - maximum	20.09	21.0 max
Pin boss height	9.04	8.6 min

2.8.1	TABLE: Dimensions of plugs- 15A (a1)	N/A
Dimension (Figure 2.1 designation)	Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)	--	6.35 ± 0.15
Earth pin width (B)	--	9.08 ± 0.15
Pin thickness (C)	--	1.63 + 0.15, -0.05
Pin disposition (D)	--	checked by test gauge
Pin disposition (E)	--	checked by test gauge
Phase and neutral pin length (F)	--	17.06 ± 0.4
Earth pin length (G)	--	19.94 ± 0.8
Pin boss radius - maximum	--	21.0 max
Pin boss height	--	8.6 min

Appendix J of AS/NZS 3112: 2017+A1:2021 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
2.8.1	TABLE: Dimensions of plugs-20A (a2)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)		--	9.08 ± 0.15
Earth pin width (B)		--	9.08 ± 0.15
Pin thickness (C)		--	1.63 + 0.15, -0.05
Pin disposition (D)		--	checked by test gauge
Pin disposition (E)		--	checked by test gauge
Phase and neutral pin length (F)		--	17.06 ± 0.4
Earth pin length (G)		--	19.94 ± 0.8
Pin boss radius - maximum		--	21.0 max
Pin boss height		--	8.6 min
2.8.1	TABLE: Projection from plug face centroid		P
Direction of projection		Measured (mm)	Allowed (mm)
Left		27.27	≤ 21.9 or ≥ 27.0
Right		27.27	≤ 21.9 or ≥ 27.0
Up		19.19	≤ 21.9 or ≥ 27.0
Down		53.19	≤ 21.9 or ≥ 27.0
2.13.3	TABLE: Test No. 1 – High voltage test		P
Test voltage applied between:		Test voltage (V)	Breakdown
All poles of the plug; taken in pairs		1000	No
Live poles and metal foil applied around insulation on pins		1250	No
Live parts and metal foil wrapping over insulated mouldings		3000	No
2.13.7.1	Test No.2 – Tumbling barrel test		P
	Following the test, the samples shall comply with <u>Clause 2.13.7.1(a..e)</u>		P
	(a) Live parts shall not have become exposed to the standard test finger		P
	(b) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained. AS/NZS 3100 CI 8.5 The resistance shall not exceed 0.1 Ω		No earth pin N/A
	(c) Any other function affecting safety shall not be impaired		P

Appendix J of AS/NZS 3112: 2017+A1:2021 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created (see Clause 2.9)		P
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking		P
	Test No.3 Impact test for assembled equipment with the detachable plug portion connected and for equipment with an integral plug portion.		P
	Following the test, the samples shall comply with <u>Clause 2.13.7.1 (a..e)</u> as follows:		P
	(a) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		P
	(b) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1Ω	No earth pin	N/A
	(c) Any other function affecting safety shall not be impaired		P
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created		P
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		P
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		P
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		P

Appendix J of AS/NZS 3112: 2017+A1:2021 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.	No holes.	N/A
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.	No such construction	N/A
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		P
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		P
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		P
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		P
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100.Cl 5.2.2 as follows:		P
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		P
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		P

Appendix J of AS/NZS 3112: 2017+A1:2021 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
	Compliance is checked by inspection.		P
	Test No.3 Impact test for the detachable plug portion after it has been separated from the equipment		N/A
	Following the test, the samples shall comply with <u>Clause 2.13.7.1 (a..e)</u>		N/A
	(a) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	(b) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1Ω	No earth pin	N/A
	(c) Any other function affecting safety shall not be impaired		N/A
	(d) No live part shall have become detached or loosened, to the extent that a hazardous situation is created		N/A
	(e) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		N/A
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		N/A
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		N/A

Appendix J of AS/NZS 3112: 2017+A1:2021 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.	No holes.	N/A
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.	No such construction	N/A
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		N/A
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		N/A
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100.Cl 5.2.2 as follows:		N/A
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		N/A

Appendix J of AS/NZS 3112: 2017+A1:2021 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		N/A
	Compliance is checked by inspection.		N/A

2.13.8	TABLE: Test No. 6 - Temperature rise test		P
	Ambient temperature (°C)	45.5°C	--
	Test current (A)	0.88	--
Measured part		dT measured (K)	dT allowed (K)
Active (phase) terminal		11.9	45
Neutral terminal		11.0	45
Earthing terminal		--	45

2.13.9.1	TABLE: Movement of pins		P
	Earth and neutral pins clamped – phase pin loaded		--
Force direction	Measured deflection (mm)	Allowed deflection (mm)	
Force towards neutral plane parallel to pin plane	0.24mm	2.0	
Force from neutral plane parallel to pin plane	0.26mm	2.0	
Force outwards at 90° to pin plane	0.28mm	2.0	
Force inwards at 90° to pin plane	0.24mm	2.0	

2.13.9.1	TABLE: Movement of pins		N/A
	Phase and neutral pins clamped – earth pin loaded		--
Force direction	Measured deflection (mm)	Allowed deflection (mm)	
Force inwards parallel to pin plane	--	2.0	
Force outwards parallel to pin plane	--	2.0	
Force towards neutral	--	2.0	
Force towards phase	--	2.0	

2.13.9.1	TABLE: Movement of pins		P
	Phase and earth pins clamped – neutral pin loaded		--

Appendix J of AS/NZS 3112: 2017+A1:2021 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force towards phase plane parallel to pin plane		0.25 mm	2.0
Force from phase plane parallel to pin plane		0.22 mm	2.0
Force outwards at 90° to pin plane		0.27 mm	2.0
Force inwards at 90° to pin plane		0.22 mm	2.0
2.13.13.3	TABLE: Test No.13(b) – Insulation resistance test after static damp heat test		P
Applied between:		Insulation resistance (MΩ)	Minimum required (MΩ)
Live poles and metal foil applied around insulation on pins		>1000	5
2.13.13.3	TABLE: Test No.1 – High voltage test after static damp heat test		P
Test voltage applied between:		Test voltage (V)	Breakdown
Live poles and metal foil applied around insulation on pins		1250	No
2.13.13.4	TABLE: Test No.1 – Insulation resistance test after low temperature test		P
Applied between:		Insulation resistance (MΩ)	Minimum required (MΩ)
Live poles and metal foil applied around insulation on pins		>1000	5
2.13.13.4	TABLE: Test No.1 – High voltage test after low temperature test		P
Test voltage applied between:		Test voltage (V)	Breakdown
Live poles and metal foil applied around insulation on pins		1250	No
J4.8.4.1	TABLE: Test no.12 Resistance to heat		N/A
Component tested		Temperature (°C)	Diameter of impression (mm)
--	--	--	--

Conformance is checked by subjecting the relevant part to the ball pressure test of IEC 60695-10-2.

J4.8.4.2	TABLE: Test no.13 Resistance to Fire	P
	Plug portions shall comply with the requirements for resistance to fire in accordance with AS/NZS 3100:2017 Annex A. The glow-wire test temperature 'T' shall be 750°C.	P

Glow-wire testing was conducted in accordance with IEC 60695-2-11.

Test specimens arranged so that the surface in contact with the tip of the glow-wire was vertical and glow wire tip applied to surface of the specimen likely to be subjected to thermal stresses in normal use.

A layer of white pine board and wrapping tissue was placed beneath the sample at 200mm ± 5mm distance.

Appendix J of AS/NZS 3112: 2017+A1:2021 (Partial)					
Clause	Requirement – Test		Result – Remark		Verdict
SPECIMEN NUMBER	1	2	3	4	5
SPECIMEN DESCRIPTION	Plug holder	Enclosure	Enclosure	--	--
Material	FR6	940(f1)(gg*)	945 (GG)	--	--
Colour	Black	Black	Black	--	--
Test specimen	SABIC INNOVATIVE PLASTICS US LLC	SABIC INNOVATIVE PLASTICS US LLC	SABIC JAPAN LLC	--	--
Glow wire tip temperature (°C)	750	750	750	--	--
Duration of glow wire application (t _a) (s)	30	30	30	--	--
OBSERVATIONS	--	--	--	--	--
Duration from beginning of glow-wire tip application to ignition of specimen or layer (t _i)(s)	0	0	0	--	--
Duration from beginning of glow-wire tip application to when flames extinguish (t _e)(s)	0	0	0	--	--
Maximum height of flames after initial 1s (to nearest 5 mm)(mm)	0	0	0	--	--
Flame impingement on other parts	No	No	No	--	--
Degree of tip penetration	No	No	No	--	--
Degree of specimen distortion	No	No	No	--	--
Scorching of pinewood board	No	No	No	--	--
EVALUATION CRITERIA	--	--	--	--	--
Visible flame or sustained glowing	No	No	No	--	--
Visible Flame Duration in Seconds during test.	0	0	0	--	--
Duration of flaming or glowing after tip removal (max. allowable 30 s)(s)	0	0	0	--	--
Surrounding parts burned away completely (not permitted)	No	No	No	--	--
Ignition of wrapping tissue layer (not permitted)	No	No	No	--	--
RESULTS If parts tested withstand the glow-wire test, but during the test produce a flame that persists for longer than 2 s, then the consequential needle flame test of AS/NZS 3100:2017 Annex A 6.1.5 applies.	P	P	P	--	--

Appendix J of AS/NZS 3112: 2017+A1:2021 (Partial)			
Clause	Requirement – Test	Result – Remark	Verdict

Note:

LEGEND:

CE	Complete Equipment	SA	Sub Assembly	SE	Self Extinguished
EBD	Emitted Burning Droplets	SBD	Specimen Burned and Distorted	SMD	Specimen Melted and Distorted
ME	Manually Extinguished	SC	Separate Component	SS	Specimen Scorched
NA	Not Applicable	SCC	Specimen Completely Consumed	WPNI	Wall Penetrated but no Ignition
NI	No Ignition	X	Flame Appeared for an Instant		

TABLE: Needle- flame test (NFT)					N/A
Object/ Part No./Material	Manufacturer/trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
--	--	--	--	--	--
Supplementary information:					
<ul style="list-style-type: none"> - NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1 - NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0 					

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT AS_NZS_3112:2017_+A1:2021 Appendix J AUSTRALIAN / NEW ZEALAND NATIONAL DIFFERENCES (Approval and test specification—Plugs and socket-outlets)
Differences according to : AS_NZS_3112:2017_Amendment 1:2021_Appendix J
TRF template used: : IEC60068-2-20-2020-F3, Ed. 1.1
Attachment Form No. : AS_NZS_3112:2017_Appendix J
Attachment Originator : JAS-ANZ
Master Attachment : 2022-06
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	Note: AS/NZS 3112 is NOT covered by IECEE Accreditation for Testing / Reporting Please State Laboratory Accreditation for this Standard	P
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--	Accreditation	Dongguan Lepont Testing Service Co., Ltd. (China) (L10100)	--
--	Accreditation stamp	CNAS	--

	APPENDIX J INTEGRAL OR DETACHABLE PLUG PORTIONS OF EQUIPMENT FOR INSERTION INTO SOCKET-OUTLETS	P
AU plug portion test for detachable AU plug portion DYS40K-AU		
J1 SCOPE	<p>General: This Appendix specifies additional dimensional and constructional requirements for detachable plug portions, or equipment incorporating integral supply pins or equipment incorporating detachable plug portions.</p> <p>This Appendix shall be read in conjunction with Section 2 of this Standard (AS/NZS 3112:2017+A1:2021).</p> <p>For the purposes of this Appendix, where the term 'plug' is used in Section 2 of this Standard (AS/NZS 3112:2017+A1:2021) it shall be taken to mean the plug portion of equipment or the detachable plug portion.</p> <p>The equipment shall comply with the relevant product Standard. The tests and requirements specified in this Appendix are in addition to any test and requirements of the relevant product Standard for the equipment. (AS/NZS 3112:2017/A1:2021)</p>	P

J2	DEFINITION	P
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AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
J2.1	<p>Detachable plug portion</p> <p>A plug portion that is detachable from the equipment and with connections including the following standardized outputs and other contacts</p> <p>(a) Type A (see Figure J1): A detachable plug portion with a connection intended for plugging directly into equipment. The connection being via the equipment group 1 appliance inlet within the scope of AS/NZS 60320.1.</p> <p>(b) Type B (see Figure J2): A detachable plug portion with a non-standardized connection intended for plugging directly into equipment</p> <p>(c) Type C (see Figure J3): A detachable plug portion with a connection intended for use with an adaptor connected to a flexible cord so as to replicate a supply plug and flexible cord configuration. The connection being via a group 1 appliance outlet within scope of AS/NZS 60320.2.2, which is integral with the plug portion (AS/NZS 3112:2017)</p>		P
J2.2	<p>Integral plug portion</p> <p>A plug portion that is integral to the equipment enclosure and is not detachable (AS/NZS 3112:2017)</p>		P
J2.3	<p>Plug portion</p> <p>A plug portion is that portion of equipment with pins for insertion into a socket-outlet, including the plug pins, terminals of the plug pins, external dimensions of the ‘maximum projection’ and any connections of a detachable plug portion. (AS/NZS 3112:2017/A1:2021)</p>		P
J3	REQUIREMENTS FOR THE PLUG PORTION		
J3.1	<p>General</p> <p>The following provisions apply to the dimensional and constructional requirements of plug portions of equipment and any detachable connection between the plug portion and the equipment:</p>		P
(a)	For detachable plug portions intended for connection to the equipment in multiple orientations, the relevant tests are performed in the most onerous orientation.		P
(b)	For Type A detachable plug portion, the relevant requirements of AS/NZS 3105:2014 are applicable, in addition to conformance with relevant clauses of this Appendix		N/A
(c)	For Type B detachable plug portions, the conformance is shown by the relevant clauses of this Appendix.		P
(d)	For Type C detachable plug portions, conformance is shown by assessment to Section 2 of this Standard (plugs) and relevant clauses of this Appendix (AS/NZS 3112:2017)		N/A
J3.2	Plug pins of plug portions The requirements of Clause 2.2 are applicable for plug pins.		
2.2	PLUG PINS		

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
2.2.1	Current carrying parts of plug pins of metal having sufficient mechanical strength, electrical conductivity and resistance to corrosion adequate for the intended use		P
	Plug pin material?	Copper alloy with copper content: min. 58%.	--
2.2.3	Plug pins adequately proportioned throughout and portion adjacent to the connection designed to not introduce a stress concentration which may lead to a fracture of the pin, and suitably shaped to prevent abrasion or cutting of conductor strands due to flexure in normal use	It can easily enter into the gauge without additional force applied. No sharp edges	P
	Exposed ends of plug pins have a lead-in, bevel or radius to facilitate entry into socket-outlets and to operate shutters	See below	P
	Flat-pins with the following profile are deemed to comply:		--
(a)	Flat-pins with a radius on the end with side bevels may have a width and thickness profile as specified in Figure 2.1(h)	See appendix 1	P
(b)	Flat-pins square on the end with corner and side bevels may have a width and thickness profile as specified in Figure 2.1(i)	Flat-pins with radius on the end with side bevels	N/A
(c)	Flat-pins square on the end with corner bevels and a radius on the sides may have a width and thickness profile as specified in Figure 2.1(j)	Flat-pins with radius on the end with side bevels	N/A
	Contact portion of the pins smooth and free from openings or indentations	Smooth, no seam	P
	Flat pin plugs having a longitudinal seam or opening in the contact portion of one face; width not exceeding 0.3 mm and	See appendix 1	P
	Thickness not exceeding 1.58 mm	See appendix 1	P
	Exposed portion of earthing pins and pins other than insulated pins free from any non-metallic coverings or coatings (AS/NZS 3112:2017)	No earthing pins	N/A
2.2.4	Live parts of insulated pin plugs not exposed when plug is partially or fully engaged with associated socket		P
	Compliance by measurement to Figure 2.4	(see appended table)	P
	Lacquer, enamel or sprayed insulating coating not considered to be insulation material	No such materials used	P
	All live pins on low voltage plugs except for those shown in Figure 2.1 (a2), (b) and (g) of the insulated pin type	Insulated pin sleeve used	P
	Colour green or green / yellow not used for insulation of insulated pins (AS/NZS 3112:2017)	No such materials used	P
J3.3	Ratings and dimensions for low-voltage plug portions Requirements of clauses 2.8.1 and 2.8.4 apply for rating and dimensions		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
2.8	Ratings and Dimensions of Low Voltage Plugs		P
2.8.1	Plugs with ratings up to and including 20A; shall conform to the appropriate dimensions shown in Figure 2.1	(see appended results)	P
	Rating of plug	0.8A	--
	Nominal dimensions covering disposition of pins checked by gauge of Appendix A	Two-pin plug. Complying with Figure 2.1(c), (e)	P
	Distance between live pin and edge of moulding to not less than 9 mm	See below	P
	Measured distance	11.69mm	--
	No point on plug face protrudes more than 0.5 mm	See below	P
	Measured protrusion	No point on the front face of the plug with protrusion	--
	Dimensional requirements of Figure 2.1(e2) did not applied to plugs with greater than three pins (AS/NZS 3112:2017)	Two-pin plug.	P
2.8.4	Low voltage plugs comply with dimensions of Figure 2.1	(see appended table 2.8.1)	P
	Disposition of pins checked by gauge complying with Appendix A, B or F as appropriate		P
	Low voltage plug having rating up to 15A and of the Figure 2.1 (a1), (c), (d), (f) or (g) type; comply with dimensional requirements of Figure 2.1 (e1 and e2)	Two-pin plug. Complying with Figure 2.1(c), (e).	P
	20A plug of Figure 2.1 (a2) type complies with dimensional requirements of Figure 2.1 (e2)		N/A
	Plugs with insulated pins need not comply with dimension R20.0 ± 1 mm requirement of Figure 2.1 (e3) provided there is at least 9mm from the edge of the live pins to the edge of the plug face Figure 2.1(e3). (AS/NZS 3112:2017)		N/A
J3.4	Internal connections for plug portions Requirements of clause 2.9 apply for internal connections, unless requirements contained in the relevant product standard (AS/NZS 3112:2017)		N/A
2.9	INTERNAL CONNECTIONS		N/A
	Plug provided with earthing connections designed and constructed so that when plug is correctly wired and assembled:		N/A
(a)	Loose terminal screw or conductive material cannot bridge any live or earthed parts	Two-pin plug without earthing connections	N/A
(b)	Earthing parts effectively isolated from contact with live conductor which may become detached		N/A
(c)	Live parts effectively isolated from contact with any earthing conductor which may become detached		N/A
	Any connections for auxiliary devices comply with above requirements (AS/NZS 3112:2017)		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
J3.5	Arrangement of earthing connections for plug portions Requirements of clause 2.10 apply for arrangement of earthing connections		N/A
2.10	Arrangement of earthing connections		N/A
	Earthing pin radial to the circle embracing the pins (AS/NZS 3112:2017)	Two-pin plug without earthing connections	N/A
J3.6	Configuration of plug portions Requirements of clause 2.12.6 apply for configuration of the plug portion (AS/NZS 3112:2017)		P
2.12	Marking		P
2.12.6	Configuration of plugs		P
	Pins disposed so that configuration, as viewed from the pins, is earth, neutral and active in a clockwise direction	Conforming to figure 2.1(c)	P
	Where there is no earthing pin; live pins conform to this configuration (AS/NZS 3112:2017)	Two-pin plug	N/A
J4	Tests		P
J4.1	General Plug portions of equipment shall be subjected to the following tests and unless stated otherwise, shall comply with the requirements specified in Section 2 for each test. The number of test samples shall be in accordance with Table J1 For equipment with a detachable plug portion, the assessment(s) of Table J1 tests 2, 3, 5, 10 and 11 shall be conducted on the— (a) assembled equipment with the detachable plug portion connected; and (b) the detachable plug portion after it has been separated from the equipment (AS/NZS 3112:2017/A1:2021)		P
J4.2	High voltage test The requirements of Clause 2.13.3 are applicable unless requirements are contained in the relevant product standard (AS/NZS 3112:2017)		P
2.13.3	Test No.1 - High voltage test		P
	Plug withstands without failure electric strength test as specified (AS/NZS 3112:2017)	(see appended table)	P
J4.3	Mechanical strength		P
J4.3.1	Tumbling barrel test The tumbling barrel test is applied to determine the mechanical strength of the plug portions and equipment having integral or detachable plug portions. For equipment with a detachable plug portion, the detachable plug portion may become detached during the test. If this occurs the detachable plug portion shall be reassembled with the equipment when the pins are straightened as per (a) and (b) below. Three samples (Samples BCD in Table J1) that have not been subjected to any previous test are tested as specified in Clause 2.13.7.1, however the test is modified as follows:		P

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Clause	Requirement – Test	Result - Remark	Verdict
	<p>They are tested in a tumbling barrel as described in AS 60068.2.32 or test Free fall repeated – Procedure 2 in IEC 60068-2.31.</p> <p>The samples shall be dropped from a height of 500 mm onto a steel plate, 3 mm thick. The barrel shall be turned at a rate of 5 r/min, to yield 10 falls per minute. Only one sample shall be tested at a time.</p> <p>A sample is dropped—</p> <p>(a) 500 times if the mass of the specimen does not exceed 250 g. The pins being straightened after each 100 drops and at the completion of the test to pass through the appropriate gauge of <u>Figure A1</u>, <u>Figure B1</u> or <u>Figure F1</u>; and</p> <p>(b) 250 times if the mass of the specimen exceeds 250 g. The pins being straightened after each 25 drops and at the completion of the test to pass through the appropriate gauge of <u>Figures A1</u>, <u>Figure B1</u> or <u>Figure F1</u>.</p> <p>(AS/NZS 3112:2017/A1:2021)</p>		P
	Mass of sample	_104.7_Grams	P
	Number of drops	500	P
	Compliance shall be checked by <u>Paragraph J4.3.3</u>	(See appended table)	P
J4.3.2	<p>Test No.3 Impact test.</p> <p>Plug portions and equipment having integral plug portions or detachable plug portions shall withstand lateral impact forces.</p> <p>All samples that were subjected to the tests in <u>Paragraph J4.3.1</u> (Samples BCD in Table J1) shall be tested as follows:</p>		P
	(a) The sample shall be positioned at the centre of a steel plate with a thickness of at least 6 mm. Apertures in the steel plate for the plug pins to pass through shall conform to the corresponding socket Standard. The sample shall be held against the steel plate by clamping all the pins.		P
	(b) Samples shall be subjected to blows, with an impact energy of 1.0 ± 0.05 J by any means having the same performance as the spring-operated impact-test apparatus of AS/NZS 3100.		P
	(c) Three blows shall be applied to every point that is most likely to directly or indirectly stress the enclosure joints of the sample		P
	Compliance shall be checked by <u>Paragraph J4.3.3</u>		P
J4.3.3	<p>Specific compliance criteria</p> <p>This Paragraph provides the common compliance assessment criteria for tests specified in <u>Paragraphs J4.3.1</u> and <u>J4.3.2</u>.</p>		P
	Following each test, the samples shall comply with <u>Clause 2.13.7.1</u>		P
(a)	assembled equipment with the detachable plug portion connected;		P
	After the test, samples show no damage	(See appended table)	P
(b)	the detachable plug portion after it has been separated from the equipment.		P
	After the test, samples show no damage	(See appended table)	P

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Clause	Requirement – Test	Result - Remark	Verdict
4.3.4	<p>Pin bending test</p> <p>The pins of the plug portion of three samples (Samples EFG in Table J1) not subjected to any previous tests shall be tested for compliance with the pin bending test of <u>Clause 2.13.7.2 (AS/NZS 3112:2017/A1:2021)</u></p>		P
2.13.7.2	<p>Test No.4 – Pin bending test</p> <p>All flat-pin plugs rated up to and including 15 A shall be subjected to the pin bending test</p>		P
	<p>Three samples are subjected by clamping the plug in a rigid holding block and applying the bending force as specified</p>		P
	<p>After the test the pins shall not be broken off. (AS/NZS 3112:2017)</p>		P
J4.8.3	<p>Test No.5 Plug portion detachment requirements</p> <p>For all Type B or C devices and for Type A devices where the outlet of the detachable plug portion is parallel to the plug supply pins, disengagement of the detachable plug portion from the equipment shall require at least two simultaneous independent actions or the use of a tool.</p> <p>The plug portion and the equipment/adaptor shall be connected and disconnected 50 times (100 strokes).</p>		P
	<p>Compliance is verified by the plugging test, a force which, over a period of 10 s, shall be increased steadily to 60 ± 0.6 N and held at this value for a further 10 s, shall be applied evenly at the connecting equipment in a direction parallel to the pins. This procedure shall be conducted three times on the same plug portion, at intervals of 5 min, without disturbing the plug portions between tests</p>		P
	<p>During the test the plug portion shall not separate</p>		P
	<p>The test of AS/NZS 3112 ‘temperature rise test’ for plugs shall be conducted immediately after the above test without disturbing the sample. Test No 6 Temperature Rise test J4.4 (AS/NZS 3112:2017/A1:2021)</p>		P
J4.4	<p>Temperature rise test</p> <p>The relevant requirements of <u>Clause 2.13.8</u> are applicable for the temperature rise test, except that the test current shall be that specified in the relevant product standard</p>		P
	<p>The temperature rise of the pins shall not exceed 45 K irrespective of the temperature rise of parts specified in end-product standards.</p>		P
	<p>For detachable plug portions the temperature rise of terminals and contacts shall not exceed 45 K. (AS/NZS 3112:2017)</p>		P
2.13.8	<p>Test No.6 – Temperature rise test</p>		P

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Clause	Requirement – Test	Result - Remark	Verdict
	Plug tested in draught free environment as specified using clamping units as specified in Figure 2.10		P
	Test Current Relevant Product Standard	_0.88_ Amps	P
	Temperature of terminals and contacts of detachable plug portion not exceeding 45 K (AS/NZS 3112:2017)	(see appended table)	P
J4.5	Securement of pins of the plug portion The requirements of <u>Clause 2.13.9</u> are applicable for the securement of pins. (AS/NZS 3112:2017)		P
2.13.9	Test No.7. Securement of pins		P
2.13.9.1	Movement of pins		P
	Plug pins clamped 5 ± 0.5 mm from pin face; test equipment and sample pre-conditioning for 1 h at $40 \pm 1^\circ\text{C}$		P
	Force of 18 ± 1 N applied to pin 14 ± 0.5 mm from plug face; applied gradually over 10 s and maintained for 10 s; applied in four directions		P
	Maximum deflection during test not exceeding 2.0 mm	(see appended results)	P
	Any distortion 5 minutes after test does not prevent insertion of plug into standard gauge(s) (AS/NZS 3112:2017 + A1:2021)	After test it can still be inserted in the standard gauge shown in Appendix A, Appendix B or Appendix F, as appropriate, without the application of undue force	P
2.13.9.2	Fixing of pins		P
	Plug heated to $50 \pm 2^\circ\text{C}$ for 1h		P
	Force of 60 ± 0.6 N applied to each pin over 10 s and maintained for 10 minutes; applied in two directions along length of pin		P
	Maximum displacement during test not exceeding 2.4 mm	See below	P
	Maximum measured displacement	No displacements on any pins of plug were observed	--
	Pin returns to within 0.8 mm of nominal length within 5 minutes of removal of test force (AS/NZS 3112:2017)	No displacements on any pins of plug were observed	P
J4.6	Tests on the insulation material of insulated pin-plug portions The requirements of <u>Clause 2.13.13</u> are applicable for insulating material of insulated plug pins. (AS/NZS 3112:2017)		P
2.13.13	Test No.8 Tests for insulation material of insulated pin plugs		P
2.13.13.1	Material of pin-insulation resistant to stresses at temperature likely to occur		P

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Clause	Requirement – Test	Result - Remark	Verdict
2.13.13.2	Pressure test at high temperature		P
	Specimen tested as per Figure 2.5 with force of 2.5 N applied as specified; maintained for 2 h at $160 \pm 5^\circ\text{C}$; removed and cooled by immersion in water within 10 s		P
	Thickness of insulation at point of impression not reduced by more than 50%	Thickness of insulation after test reduced by 28.89%	P
	Initial thickness	0.45 mm	--
	Thickness after test	0.32 mm	--
	No visible cracks on insulation material	Compliance checked	P
	Dimension of insulating material not below minimum size in Figure 2.4 (AS/NZS 3112:2017)	Compliance checked	P
2.13.13.3	Static damp heat test		P
	Specimen subjected to two damp heat cycles in accordance with IEC 60068-2-30; Db (12 + 12h), 95% RH, $25 \pm 3^\circ\text{C}$; 40°C		P
	After this treatment and recovery to room temperature; specimen subjected to:		P
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	P
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	P
(c)	Abrasion test in accordance with clause 2.13.13.6		P
2.13.13.4	Low temperature test		P
	Plug maintained at $-15 \pm 2^\circ\text{C}$ for minimum of 24 h and returned to room temperature; after which specimen subjected to:		P
(a)	Insulation resistance test in accordance with clause 2.13.2 (e)	(see appended table)	P
(b)	High voltage test in accordance with clause 2.13.3	(see appended table)	P
(c)	Abrasion test in accordance with clause 2.13.13.6		P
2.13.13.5	Impact test at low temperature		P
	Specimen maintained at $-15 \pm 2^\circ\text{C}$ for 24 h		P
	Specimen placed in position and subjected to impact test as per Figure 2.6; mass of 100 ± 1 g falling through 100 mm		P
	Four impacts applied; specimen rotated through 90° between impacts		P
	After return to room temperature; no visible cracks of insulating material		P
2.13.13.6	Abrasion test		P
	Plug held in clamp and tested as per Figure 2.7; pin loaded at 4 N; 20 000 movements		P

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Clause	Requirement – Test	Result - Remark	Verdict
	After test; pins show no damage affecting safety or impairing further use of the plug		P
	Insulating sleeve not punctured or rucked up (AS/NZS 3112:2017)	No rucked up or punctured of insulating sleeve observed	P
J4.7	Test no.9 Equipment with a plug portion intended to be supported by the contacts of a socket-outlet		P
	Equipment with pins intended to be introduced into fixed socket-outlets not imposing undue strain on socket-outlet		P
	Applied torque not exceeding 0.25 Nm		P
	Measured torque (AS/NZS 3112:2017)	0.042Nm	--
J4.8	Additional requirements for detachable plug portions		P
J4.8.1	Test no.10 Access to live parts		P
	Small test finger of Figure 13 of IEC 61032 was not possible to contact live parts with the force of 20N		P
	incorrectly assemble the plug portion was not possible (AS/NZS 3112:2017)		P
J4.8.2	Test No.11 Construction of detachable contacts where the input current of the equipment exceeds 0.2 A		P
	Contacts of the equipment shall be such that they make and maintain, under normal service conditions, satisfactory electrical and mechanical contact with the corresponding contact of the detachable plug portion.		P
	For connections intended to accommodate pins, contact shall be made on two surfaces diametrically opposite, except if a single spring-assisted contact is used. (AS/NZS 3112:2017/A1:2021)		P
	Contacts shall not rely exclusively on the resilience of the contact material and shall have an opposite face of material other than thermoplastic or resilient insulating material. (AS/NZS 3112:2017/ A1:2021)		P
	The alignment and contact-making properties of contacts shall be independent of terminal screws		P
	The effectiveness of the contacts shall be independent of pressure from any thermoplastic or resilient moulding.		P
	A visual inspection is conducted to determine the existence of interference between the metal contacts and the thermoplastic or resilient moulding to provide supplementary contact pressure to the metal contacts.		P
	Conformance of the effectiveness of the contacts is checked by inspection and by the inspection and tests in J4.8.3 (AS/NZS 3112:2017)		P
J4.8.4	Resistance of insulating material to heat and fire		P

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Clause	Requirement – Test	Result - Remark	Verdict
J4.8.4.1	Test no.12 Resistance to heat For Type B detachable plug portions parts of non-metallic material, parts of insulating material supporting live parts including connections, and parts of thermoplastic material providing supplementary insulation or reinforced insulation, shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this Standard.		P
	Ball pressure test conducted in accordance with IEC 60695-10-2		P
(a)	75°C ± 2°C, for external parts;		P
(b)	125°C ± 2°C, for parts supporting live parts.		P
J4.8.4.2	Test no.13 Resistance to fire		P
	Plug portions comply with resistance to fire requirements of AS/NZS 3100 Annex A as follows:		P
	The glow wire test temperature 'T' for 'retaining parts' of fixed socket outlets shall be 750°C (AS/NZS 3112:2017)		P

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Clause	Requirement – Test	Result - Remark	Verdict

TABLES OF RESULTS

2.2.4	TABLE: Dimensions of insulation on insulated pin plugs	P
Dimension (Figure 2.1 designation)	Measured (mm)	Allowed (mm)
Phase pin	9.02	8.7 ± 0.5
Neutral pin	9.02	8.7 ± 0.5

2.8.1	TABLE: Dimensions of plugs- 10A (a1)	P
Dimension (Figure 2.1 designation)	Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)	6.38	6.35 ± 0.15
Earth pin width (B)	--	6.35 ± 0.15
Pin thickness (C)	1.63	1.63 + 0.15, -0.05
Pin disposition (D)	Fit with gauge	checked by test gauge
Pin disposition (E)	Fit with gauge	checked by test gauge
Phase and neutral pin length (F)	17.37	17.06 ± 0.4
Earth pin length (G)	--	19.94 ± 0.8
Pin boss radius - maximum	20.78	21.0 max
Pin boss height	10.40	8.6 min

2.8.1	TABLE: Dimensions of plugs- 15A (a1)	N/A
Dimension (Figure 2.1 designation)	Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)	--	6.35 ± 0.15
Earth pin width (B)	--	9.08 ± 0.15
Pin thickness (C)	--	1.63 + 0.15, -0.05
Pin disposition (D)	--	checked by test gauge
Pin disposition (E)	--	checked by test gauge
Phase and neutral pin length (F)	--	17.06 ± 0.4
Earth pin length (G)	--	19.94 ± 0.8
Pin boss radius - maximum	--	21.0 max
Pin boss height	--	8.6 min

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Clause	Requirement – Test	Result - Remark	Verdict
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2.8.1	TABLE: Dimensions of plugs-20A (a2)		N/A
Dimension (Figure 2.1 designation)		Measured (mm)	Allowed (mm)
Phase and neutral pin width (A)	--	9.08 ± 0.15	
Earth pin width (B)	--	9.08 ± 0.15	
Pin thickness (C)	--	1.63 + 0.15, -0.05	
Pin disposition (D)	--	checked by test gauge	
Pin disposition (E)	--	checked by test gauge	
Phase and neutral pin length (F)	--	17.06 ± 0.4	
Earth pin length (G)	--	19.94 ± 0.8	
Pin boss radius - maximum	--	21.0 max	
Pin boss height	--	8.6 min	

2.8.1	TABLE: Projection from plug face centroid	P
Direction of projection	Measured (mm)	Allowed (mm)
Left	27.22	≤ 21.9 or ≥ 27.0
Right	27.22	≤ 21.9 or ≥ 27.0
Up	20.78	≤ 21.9 or ≥ 27.0
Down	65.18	≤ 21.9 or ≥ 27.0

2.13.3	TABLE: Test No. 1 – High voltage test	P
Test voltage applied between:	Test voltage (V)	Breakdown
All poles of the plug; taken in pairs	1000	No
Live poles and metal foil applied around insulation on pins	1250	No
Live parts and metal foil wrapping over insulated mouldings	3000	No

2.13.7.1	Test No.2 – Tumbling barrel test	P
	Following the test, the samples shall comply with <u>Clause 2.13.7.1(a..e)</u>	P
	(f) Live parts shall not have become exposed to the standard test finger	P
	(g) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained. AS/NZS 3100 Cl 8.5 The resistance shall not exceed 0.1 Ω	No earth pin N/A
	(h) Any other function affecting safety shall not be impaired	P

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Clause	Requirement – Test	Result - Remark	Verdict
	(i) No live part shall have become detached or loosened, to the extent that a hazardous situation is created (see Clause 2.9)		P
	(j) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking		P
	Test No.3 Impact test for assembled equipment with the detachable plug portion connected and for equipment with an integral plug portion.		P
	Following the test, the samples shall comply with <u>Clause 2.13.7.1 (a..e)</u> as follows:		P
	(f) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		P
	(g) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1 Ω	No earth pin	N/A
	(h) Any other function affecting safety shall not be impaired		P
	(i) No live part shall have become detached or loosened, to the extent that a hazardous situation is created		P
	(j) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		P
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		P
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		P

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Clause	Requirement – Test	Result - Remark	Verdict
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.	No holes.	N/A
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.	No such construction	N/A
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		P
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		P
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		P
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		P
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100.Cl 5.2.2 as follows:		P
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		P
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		P
	Compliance is checked by inspection.		P

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Clause	Requirement – Test	Result - Remark	Verdict
	Test No.3 Impact test for the detachable plug portion after it has been separated from the equipment		P
	Following the test, the samples shall comply with Clause 2.13.7.1 (a.e)		P
	(f) Live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		P
	(g) For earth pins, the resistance of the plug/socket-outlet circuit shall be such that conformance with Clause 3.14.7 is maintained so that the resistance between the earthing terminal of any socket-outlet provided with an earthing contact and the earthing terminal of the plug used for testing shall be of a low resistance. Compliance is by the test of earthing connection in AS/NZS 3100 Clause 8.5. The resistance shall not exceed 0.1Ω	No earth pin	N/A
	(h) Any other function affecting safety shall not be impaired		P
	(i) No live part shall have become detached or loosened, to the extent that a hazardous situation is created		P
	(j) The pins shall be inspected with normal, or corrected to normal, vision. Insulation may be removed if necessary. Pins shall not be broken or show cracking.		P
	Following the test, the samples shall conform to the 'Guarding of live parts' requirements of AS/NZS 3100:2015 cl 5.1 as follows:		P
	Except for equipment intended for use only in a position not accessible to unauthorized persons, all equipment shall be so designed and constructed that, when the equipment is standing, supported, or fixed, in a normal manner, no person can inadvertently come into contact with any live part		N/A
	If a hole giving access to preset controls is marked as such on the enclosure or reference made to it in the instructions and the setting of this control requires a screwdriver or other tool, the adjustment of the control shall not allow contact with any live parts. A metal test pin having a diameter of 2 mm and a length of 100 mm shall not become live when it is inserted through the hole in every position with a force of 10 N.	No holes.	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	In addition, the opening or removal of any cover or component, with or without tools, where such opening or removal is necessary as a normal operation of the equipment as distinct from maintenance, repairs, or adjustment, shall not expose live parts to inadvertent personal contact.	No such construction	N/A
	Any metal cover or casing enclosing live parts shall be of a strength sufficient to ensure that it cannot be deformed readily so as to come into contact with live parts.		N/A
	Compliance is checked by inspection, test and checking that live parts shall not have become exposed to the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Class II equipment and class II constructions shall be constructed and enclosed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only.		N/A
	It shall only be possible to touch parts which are separated from live parts by double insulation or reinforced insulation.		N/A
	Compliance is checked by application of the standard test finger (Figure 8.10 in AS/NZS 3100 or Test Probe B in IEC 61032)		N/A
	Following the test, the samples shall conform to the 'Separation of live parts from non-current-carrying conductive parts' requirements of AS/NZS 3100.Cl 5.2.2 as follows:		N/A
	The support and insulation of every live part shall be such as will ensure that no live part can make contact with any non-current-carrying conductive part exposed to personal contact.		N/A
	In respect of terminals of components such as switches, adequate clearances shall be maintained or insulation shall be provided to prevent contact of the terminals, or loose strands of flexible cords intended to be terminated therein, with exposed conductive parts. Where necessary, provision shall be made to ensure that conductors protruding through terminals, when normally connected, will not contact exposed conductive parts.		N/A
	Compliance is checked by inspection.		N/A

2.13.8	TABLE: Test No. 6 - Temperature rise test		P
	Ambient temperature (°C)	45.7°C	--
	Test current (A)	0.88	--
Measured part		dT measured (K)	dT allowed (K)

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict
Active (phase) terminal		12.1	45
Neutral terminal		11.6	45
Earthing terminal		--	45
2.13.9.1	TABLE: Movement of pins		P
	Earth and neutral pins clamped – phase pin loaded		--
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force towards neutral plane parallel to pin plane		0.22mm	2.0
Force from neutral plane parallel to pin plane		0.24mm	2.0
Force outwards at 90° to pin plane		0.32mm	2.0
Force inwards at 90° to pin plane		0.34mm	2.0
2.13.9.1	TABLE: Movement of pins		N/A
	Phase and neutral pins clamped – earth pin loaded		--
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force inwards parallel to pin plane		--	2.0
Force outwards parallel to pin plane		--	2.0
Force towards neutral		--	2.0
Force towards phase		--	2.0
2.13.9.1	TABLE: Movement of pins		P
	Phase and earth pins clamped – neutral pin loaded		--
Force direction		Measured deflection (mm)	Allowed deflection (mm)
Force towards phase plane parallel to pin plane		0.24mm	2.0
Force from phase plane parallel to pin plane		0.26mm	2.0
Force outwards at 90° to pin plane		0.32 mm	2.0
Force inwards at 90° to pin plane		0.30 mm	2.0
2.13.13.3	TABLE: Test No.13(b) – Insulation resistance test after static damp heat test		P
Applied between:		Insulation resistance ($M\Omega$)	Minimum required ($M\Omega$)
Live poles and metal foil applied around insulation on pins		>1000	5
2.13.13.3	TABLE: Test No.1 – High voltage test after static damp heat test		P

AS/NZS 3112:2017+A1:2021 Appendix J			
Clause	Requirement – Test	Result - Remark	Verdict

Test voltage applied between: Live poles and metal foil applied around insulation on pins	Test voltage (V) 1250	Breakdown No
----------------------------------------------------------------------------------------------	--------------------------	-----------------

2.13.13.4	TABLE: Test No.1 – Insulation resistance test after low temperature test	P
Applied between:	Insulation resistance (MΩ)	Minimum required (MΩ)
Live poles and metal foil applied around insulation on pins	>1000	5

2.13.13.4	TABLE: Test No.1 – High voltage test after low temperature test	P
Test voltage applied between:	Test voltage (V)	Breakdown
Live poles and metal foil applied around insulation on pins	1250	No

J4.8.4.1	TABLE: Test no.12 Resistance to heat	P
Component tested	Temperature (°C)	Diameter of impression (mm)
Plug holder	125	Max. 0.99
Enclosure	125	Max. 1.04

Conformance is checked by subjecting the relevant part to the ball pressure test of IEC 60695-10-2.

J4.8.4.2	TABLE: Test no.13 Resistance to Fire	P
	Plug portions shall comply with the requirements for resistance to fire in accordance with AS/NZS 3100:2017 Annex A. The glow-wire test temperature 'T' shall be 750°C.	P

Glow-wire testing was conducted in accordance with IEC 60695-2-11.

Test specimens arranged so that the surface in contact with the tip of the glow-wire was vertical and glow wire tip applied to surface of the specimen likely to be subjected to thermal stresses in normal use.

A layer of white pine board and wrapping tissue was placed beneath the sample at 200mm ± 5mm distance.

SPECIMEN NUMBER	6	7	8	9	10
SPECIMEN DESCRIPTION	Plug holder	Enclosure	Enclosure	--	--
Material	FR6	940(f1)(gg*)	945 (GG)	--	--
Colour	Black	Black	Black	--	--
Test specimen	SABIC INNOVATIVE PLASTICS US L L C	SABIC INNOVATIVE PLASTICS US L L C	SABIC JAPAN L L C	--	--
Glow wire tip temperature (°C)	750	750	750	--	--
Duration of glow wire application (t _a) (s)	30	30	30	--	--
OBSERVATIONS	--	--	--	--	--

AS/NZS 3112:2017+A1:2021 Appendix J					
Clause	Requirement – Test		Result - Remark		Verdict
Duration from beginning of glow-wire tip application to ignition of specimen or layer (t_i)(s)	0	0	0	--	--
Duration from beginning of glow-wire tip application to when flames extinguish (t_e)(s)	0	0	0	--	--
Maximum height of flames after initial 1s (to nearest 5 mm)(mm)	0	0	0	--	--
Flame impingement on other parts	No	No	No	--	--
Degree of tip penetration	No	No	No	--	--
Degree of specimen distortion	No	No	No	--	--
Scorching of pinewood board	No	No	No	--	--
EVALUATION CRITERIA	--	--	--	--	--
Visible flame or sustained glowing	No	No	No	--	--
Visible Flame Duration in Seconds during test.	0	0	0	--	--
Duration of flaming or glowing after tip removal (max. allowable 30 s)(s)	0	0	0	--	--
Surrounding parts burned away completely (not permitted)	No	No	No	--	--
Ignition of wrapping tissue layer (not permitted)	No	No	No	--	--
RESULTS If parts tested withstand the glow-wire test, but during the test produce a flame that persists for longer than 2 s, then the consequential needle flame test of AS/NZS 3100:2017 Annex A 6.1.5 applies.	P	P	P	--	--
Note: LEGEND: CE Complete Equipment EBD Emitted Burning Droplets ME Manually Extinguished NA Not Applicable NI No Ignition SA Sub Assembly SBD Specimen Burned and Distorted SC Separate Component SCC Specimen Completely Consumed X Flame Appeared for an Instant SE Self Extinguished SMD Specimen Melted and Distorted SS Specimen Scorched WPNI Wall Penetrated but no Ignition					

	TABLE: Needle- flame test (NFT)					N/A
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict	
--	--	--	--	--	--	--

Supplementary information:

- NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1
- NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0

JIS C 8303: 2007 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

Japanese plug portion test (for fixed JP plug portion DYS-JP)

APPENDIX II	JIS C 8303: 2007 – PLUGS AND RECEPTACLES FOR DOMESTIC AND SIMILAR GERERAL USE (TYPE INSPECTION)	P
EXPLANATION FOR ABBREVIATIONS		
P=Pass, F=Fail, N/A=Not applicable. Placed in the column to the right.		
5	Performance	P
5.1	Retaining force	For socket only and movable blade plug only
5.2	Temperature Rise	For socket only and movable blade plug only
5.3	Contact resistance	Not required for plug and socket without earth pole
5.4	Make and Break	For socket only and movable blade plug only
5.5	Insulation resistance	5M Ohm required after make and break test.
5.6	Dielectric withstand voltage	1500V, 10mA, 1 min. required
5.7	Resistance to heat	No resin moldings or rubber moldings
5.8	Strength of screw terminal and lead-wire joint	P
5.9	Strength of blade fixing part	Tested according to 7.10 c)
5.10	Rotating property of movable plug type	N/A
5.11	Strength of enclosure	Tested according to 7.11
5.12	Strength of Cord anchorage	P
5.13	Strength of Cord outlet	P
5.14	Performance of screwless terminals	N/A
5.15	Endurance to ammonia gas	Applied for socket-outlets only
5.16	Tensile load	N/A
5.17	Waterproof	N/A
5.18	Flame retardance	No supply wire connected
5.19	Moisture resistance	N/A

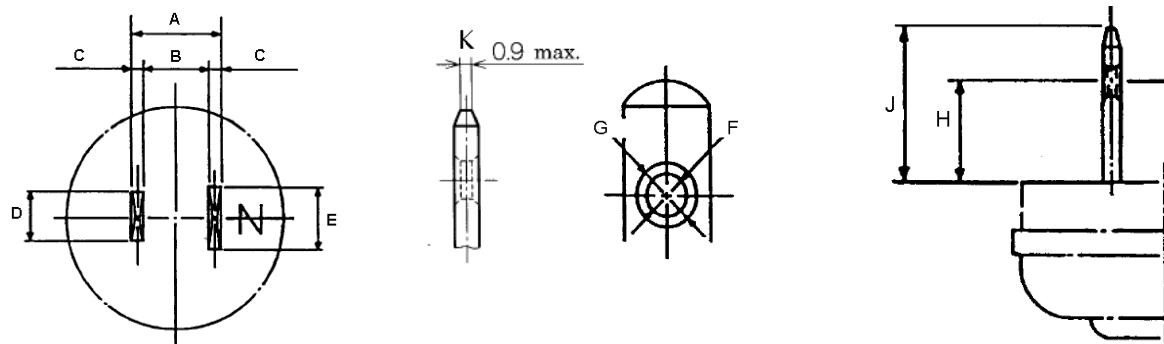
6	Construction, dimensions and material	P
6.1	Construction in general	P
6.2	Terminals	AC plug pins were moulded into enclosure directly
6.3	Insulation	Enclosure material: min. V-0.
6.4	Materials of conductive metal parts	P
6.5	Material of non-conductive metal parts	N/A

JIS C 8303: 2007 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
6.6	Shapes and dimensions of blades and blade receiving holes	See measured dimension	P
6.7	Dimensions of mounting parts of recessed socket-outlets		N/A
6.8	Dimensions of cable entry		N/A
6.9	Insulation distance		P
6.10	Symbol of poles	No earth pole or a pole of earth side.	N/A
6.11	Locking type, slip-check connectors		N/A
6.12	Waterproof connectors		N/A
7	Testing methods		P
7.1	Construction test	Considered.	P
7.2	Retaining force test		N/A
7.3	Temperature rise test		N/A
7.4	Contact resistance test		N/A
7.5	Make and break test		N/A
7.6	Insulation resistance test	Considered according to JIS C 8306:1996, see cl. 7	P
7.7	Dielectric withstand voltage test	Considered according to JIS C 8306:1996, see cl. 8	P
7.8	Heat resistance test		P
7.9	Strength test of screw terminal and lead-wire joint		P
7.10	Strength of blade fixing part	For mold on plug pins on thermoplastic material, (b) and (c) considered.	P
	(b): pull test from blade holes, 100N downward for 2 mins		P
	(c): Molded-on connectors		P
	(2) Specimen keep in temperature 20±2°C for 1 hr. in figure 2. blade move right and left 15° for 30 times, 10 times per minute.		P
	(3) Blade fixed as figure 3 move right and left 30° for 5 times.		P
7.11	Enclosure Strength tests		P

JIS C 8303: 2007 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
	(a) Enclosure compressing test	600N applied on the wider side of specimen between 5mm thick, hardness Ho 60 rubber sheet on top of 15mm or more thick hardwood board for 1 minute. For all source of enclosure and plug material were considered.	P
	(b) Pendulum free fall test		N/A
	(c) Single body free fall test	Considered according to JIS C 8306:1996. See cl. 13.5.3(2). For all source of enclosure and plug material were considered.	P
7.12	Strength test of Cord anchorage		N/A
7.13	Strength test of Cord outlet		N/A
7.14	Tensile strength test of screwless terminals		N/A
7.15	Bending test for screwless terminal		N/A
7.16	Cyclic heating test for screwless terminal		N/A
7.17	Withstand overcurrent test for screwless terminal		N/A
7.18	Ammonia gas durability test		N/A
7.19	Rotating test of movable plug-blade type		N/A
7.20	Tensile load test		N/A
7.21	Waterproof test		N/A
7.22	Flame retardance test		N/A
8	Inspection		P
8.1	Type inspection	Testing method clause 7 considered. See clause 5, 6 and 10 requirement.	P
10	Marking	Plug portion is an integral part on appliance enclosure, refer to appliance ratings.	P

JIS C 8303: 2007 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

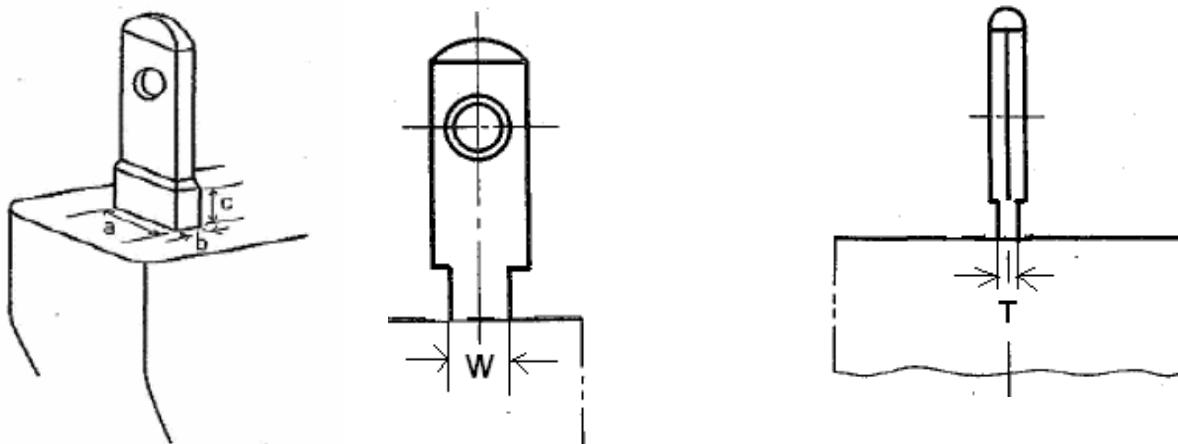
Measured dimensions of the plug portion (per JIS C 8303 or IEC 60 083)				P
Location	Measured dimensions (mm)			Limit of dimensions (mm)
	Sample 1	Sample 2	Sample 3	
A	14.12	14.15	14.12	Under 14,6
B	11.22	11.21	11.22	Over 10,8
C	1.45	1.47	1.45	$1,5 \pm 0,15$ ²⁾
D	6.25	6.27	6.27	$6,3 \pm 0,3$
E	6.26	6.29	6.27	$8 \pm 0,2$ ¹⁾
F	3.19	3.21	3.18	$\Phi 3 + 0,3 / - 0,2$
G	3.81	3.83	3.83	Over $\Phi 3,5$
H	11.57	11.65	11.61	$11,7 \pm 0,4$
J	16.76	16.83	16.79	$17 \pm 1,3$
K	0.85	0.83	0.84	Under 0,9



Notes:

- 1) In case of those without having distinction of polarity, the width of blade shall be $6,3\text{mm} \pm 0,3$ mm.
- 2) The original requirement in JIS C 8303:2007 is $1,5 \pm 0,1$ mm. However, based on DENAN technical interpretation issued by METI, the original requirement is replaced by the dimension of DENAN Appendix 4 ($1,5 \pm 0,15$ mm) in this TRF.

JIS C 8303: 2007 (Partial)				
Clause	Requirement – Test		Result - Remark	Verdict
Additional requirement for plug pins covered with resin mold (<i>pins with insulated material</i>)				N/A
Location	Measured dimensions (mm)			Limit of dimensions (mm)
	Sample 1	Sample 2	Sample 3	
a	--	--	--	<6.7
b	--	--	--	<1.9
c	--	--	--	<5.0
W	--	--	--	$6,3 \pm 0,3$
T	--	--	--	$1,5 \pm 0,15^2)$



Notes:

- 1) W and T were tested with the resin mold removed.
- 2) The original requirement in JIS C 8303:2007 is $1,5 \pm 0,1$ mm. However, based on DENAN technical interpretation issued by METI, the original requirement is replaced by the dimension of DENAN Appendix 4 ($1,5 \pm 0,15$ mm) in this TRF.

JIS C 8303: 2007 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

Japanese plug portion test (for detachable JP plug portion DYS40K-JP)

APPENDIX II	JIS C 8303: 2007 – PLUGS AND RECEPTACLES FOR DOMESTIC AND SIMILAR GERERAL USE (TYPE INSPECTION)	P
EXPLANATION FOR ABBREVIATIONS		
P=Pass, F=Fail, N/A=Not applicable. Placed in the column to the right.		
5	Performance	P
5.1	Retaining force	For socket only and movable blade plug only
5.2	Temperature Rise	For socket only and movable blade plug only
5.3	Contact resistance	Not required for plug and socket without earth pole
5.4	Make and Break	For socket only and movable blade plug only
5.5	Insulation resistance	5M Ohm required after make and break test.
5.6	Dielectric withstand voltage	1500V, 10mA, 1 min. required
5.7	Resistance to heat	No resin moldings or rubber moldings
5.8	Strength of screw terminal and lead-wire joint	P
5.9	Strength of blade fixing part	Tested according to 7.10 c)
5.10	Rotating property of movable plug type	N/A
5.11	Strength of enclosure	Tested according to 7.11
5.12	Strength of Cord anchorage	P
5.13	Strength of Cord outlet	P
5.14	Performance of screwless terminals	N/A
5.15	Endurance to ammonia gas	Applied for socket-outlets only
5.16	Tensile load	N/A
5.17	Waterproof	N/A
5.18	Flame retardance	No supply wire connected
5.19	Moisture resistance	N/A

6	Construction, dimensions and material	P
6.1	Construction in general	P
6.2	Terminals	AC plug pins were moulded into enclosure directly
6.3	Insulation	Enclosure material: min. V-0.
6.4	Materials of conductive metal parts	P
6.5	Material of non-conductive metal parts	N/A

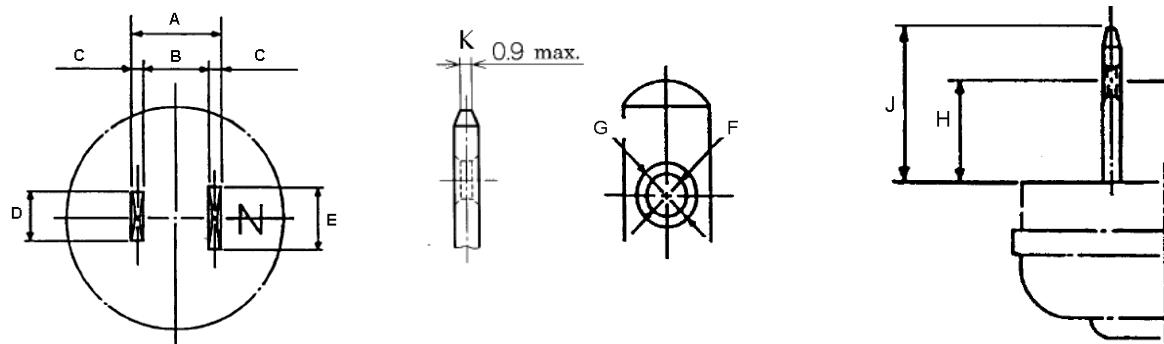
JIS C 8303: 2007 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
6.6	Shapes and dimensions of blades and blade receiving holes	See measured dimension	P
6.7	Dimensions of mounting parts of recessed socket-outlets		N/A
6.8	Dimensions of cable entry		N/A
6.9	Insulation distance		P
6.10	Symbol of poles	No earth pole or a pole of earth side.	N/A
6.11	Locking type, slip-check connectors		N/A
6.12	Waterproof connectors		N/A

7	Testing methods		P
7.1	Construction test	Considered.	P
7.2	Retaining force test		N/A
7.3	Temperature rise test		N/A
7.4	Contact resistance test		N/A
7.5	Make and break test		N/A
7.6	Insulation resistance test	Considered according to JIS C 8306:1996, see cl. 7	P
7.7	Dielectric withstand voltage test	Considered according to JIS C 8306:1996, see cl. 8	P
7.8	Heat resistance test		P
7.9	Strength test of screw terminal and lead-wire joint		P
7.10	Strength of blade fixing part	For mold on plug pins on thermoplastic material, (b) and (c) considered.	P
	(b): pull test from blade holes, 100N downward for 2 mins		P
	(c): Molded-on connectors		P
	(2) Specimen keep in temperature 20±2°C for 1 hr. in figure 2. blade move right and left 15° for 30 times, 10 times per minute.		P
	(3) Blade fixed as figure 3 move right and left 30° for 5 times.		P
7.11	Enclosure Strength tests		P
	(a) Enclosure compressing test	600N applied on the wider side of specimen between 5mm thick, hardness Ho 60 rubber sheet on top of 15mm or more thick hardwood board for 1 minute.	P
	(b) Pendulum free fall test		N/A

JIS C 8303: 2007 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict
	(c) Single body free fall test	Considered according to JIS C 8306:1996. See cl. 13.5.3(2). For all source of enclosure and plug material were considered.	P
7.12	Strength test of Cord anchorage		N/A
7.13	Strength test of Cord outlet		N/A
7.14	Tensile strength test of screwless terminals		N/A
7.15	Bending test for screwless terminal		N/A
7.16	Cyclic heating test for screwless terminal		N/A
7.17	Withstand overcurrent test for screwless terminal		N/A
7.18	Ammonia gas durability test		N/A
7.19	Rotating test of movable plug-blade type		N/A
7.20	Tensile load test		N/A
7.21	Waterproof test		N/A
7.22	Flame retardance test		N/A
8	Inspection		P
8.1	Type inspection	Testing method clause 7 considered. See clause 5, 6 and 10 requirement.	P
10	Marking	Plug portion is an integral part on appliance enclosure, refer to appliance ratings.	P

JIS C 8303: 2007 (Partial)			
Clause	Requirement – Test	Result - Remark	Verdict

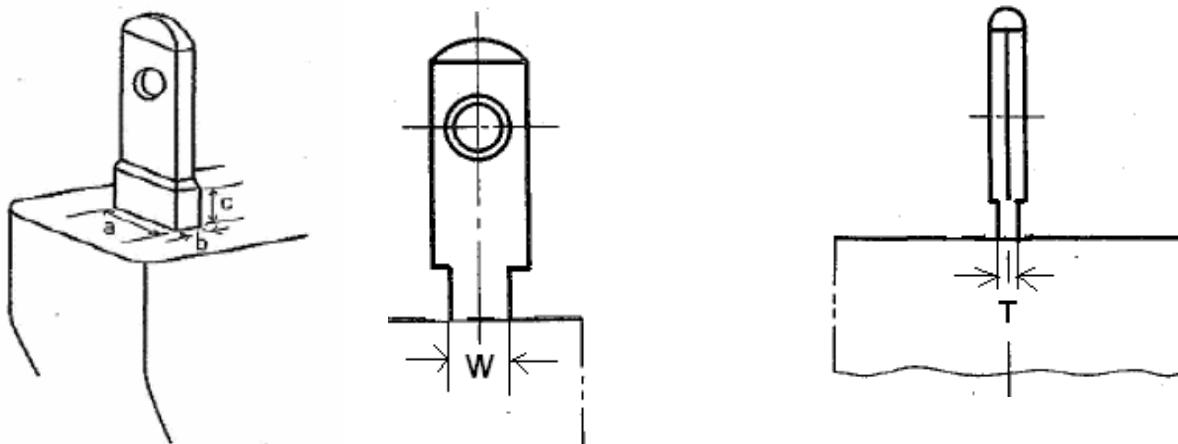
Measured dimensions of the plug portion (per JIS C 8303 or IEC 60 083)				P
Location	Measured dimensions (mm)			Limit of dimensions (mm)
	Sample 1	Sample 2	Sample 3	
A	14.16	14.14	14.15	Under 14,6
B	11.24	11.22	11.25	Over 10,8
C	1.46	1.46	1.45	$1,5 \pm 0,15$ ²⁾
D	6.26	6.28	6.26	$6,3 \pm 0,3$
E	6.27	6.27	6.27	$8 \pm 0,2$ ¹⁾
F	3.21	3.18	3.19	$\Phi 3 + 0,3 / - 0,2$
G	3.82	3.85	3.84	Over $\Phi 3,5$
H	11.91	11.95	11.93	$11,7 \pm 0,4$
J	17.37	17.39	17.43	$17 \pm 1,3$
K	0.82	0.81	0.82	Under 0,9



Notes:

- 1) In case of those without having distinction of polarity, the width of blade shall be $6,3\text{mm} \pm 0,3$ mm.
- 2) The original requirement in JIS C 8303:2007 is $1,5 \pm 0,1$ mm. However, based on DENAN technical interpretation issued by METI, the original requirement is replaced by the dimension of DENAN Appendix 4 ($1,5 \pm 0,15$ mm) in this TRF.

JIS C 8303: 2007 (Partial)				
Clause	Requirement – Test		Result - Remark	Verdict
Additional requirement for plug pins covered with resin mold (<i>pins with insulated material</i>)				N/A
Location	Measured dimensions (mm)			Limit of dimensions (mm)
	Sample 1	Sample 2	Sample 3	
a	--	--	--	<6.7
b	--	--	--	<1.9
c	--	--	--	<5.0
W	--	--	--	$6,3 \pm 0,3$
T	--	--	--	$1,5 \pm 0,15^2)$



Notes:

- 1) W and T were tested with the resin mold removed.
- 2) The original requirement in JIS C 8303:2007 is $1,5 \pm 0,1$ mm. However, based on DENAN technical interpretation issued by METI, the original requirement is replaced by the dimension of DENAN Appendix 4 ($1,5 \pm 0,15$ mm) in this TRF.

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 1 External view for Australia plug type of model DYS830-xyW-z (z=4)



Photo 2 External view for Australia plug type of model DYS830-xyW-z (z=4)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

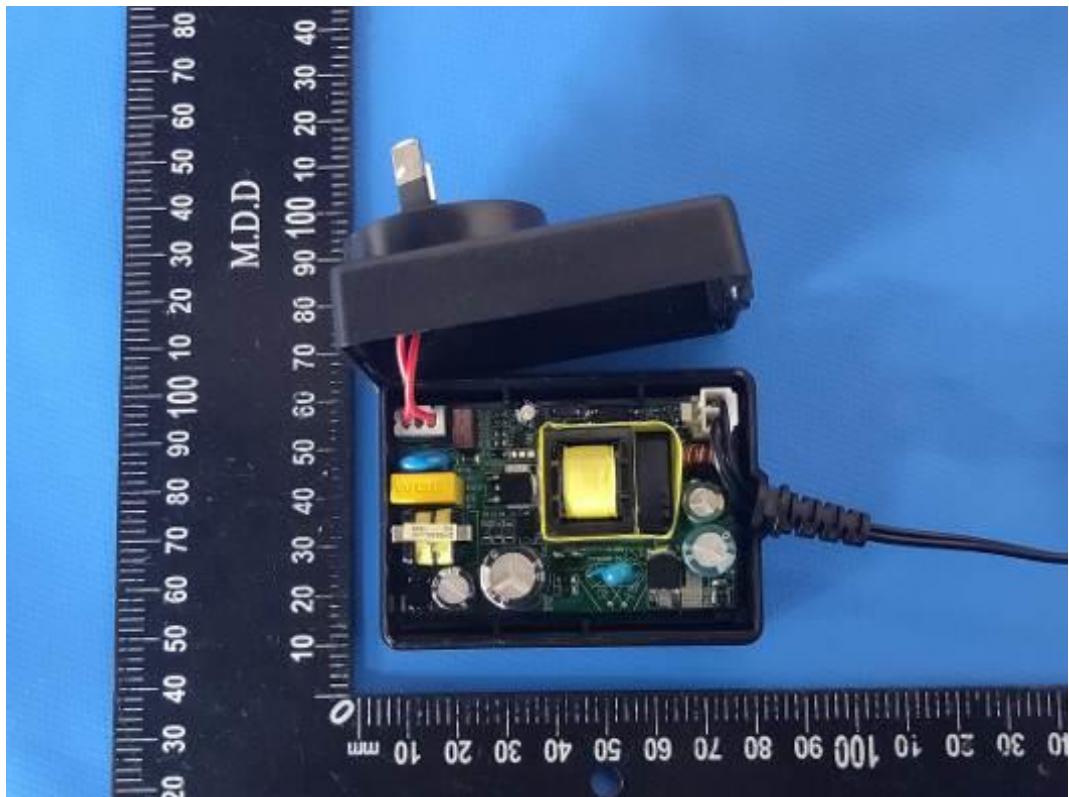


Photo 3 Internal view for Australia plug type of model DYS830-xyW-z (z=4)



Photo 4 Internal view for Australia plug type of model DYS830-xyW-z (z=4)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

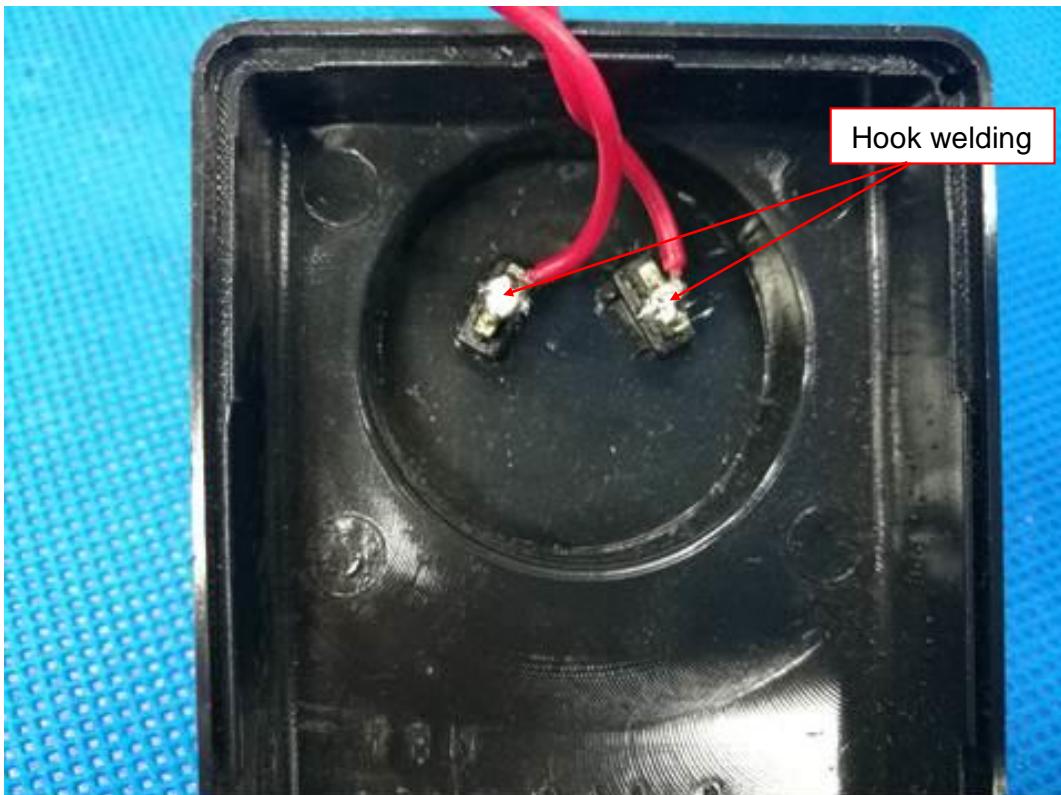


Photo 5 Internal view for Australia plug type of model DYS830-xyW-z (z=4)



Photo 6 External view for UK plug type of model DYS830-xyW-z (z=3)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 7 External view for UK plug type of model DYS830-xyW-z (z=3)



Photo 8 Internal view for UK plug type of model DYS830-xyW-z (z=3)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 9 Internal view for UK plug type of model DYS830-xyW-z (z=3)



Photo 10 Internal view for UK plug type of model DYS830-xyW-z (z=3)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 11 External view for US and JP plug type of model DYS830-xyW-z (z=1, 6)



Photo 12 External view for US and JP plug type of model DYS830-xyW-z (z=1, 6)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

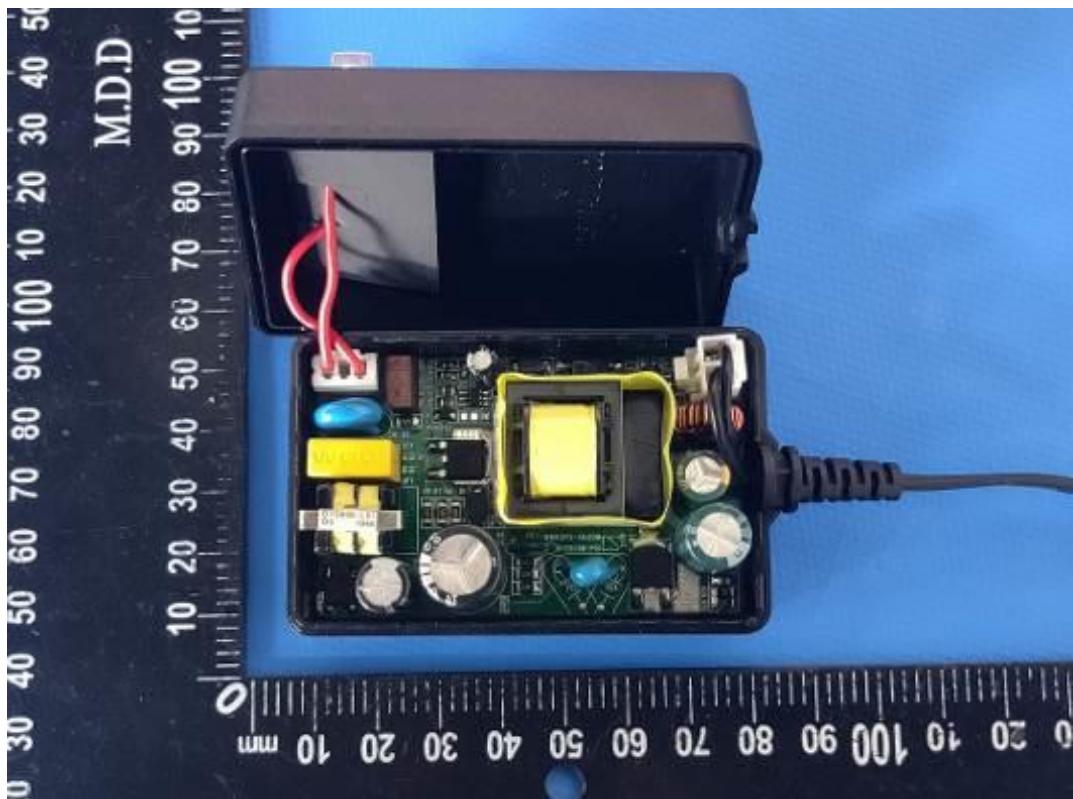


Photo 13 Internal view for US and JP plug type of model DYS830-xyW-z (z=1, 6)



Photo 14 Internal view for US and JP plug type of model DYS830-xyW-z (z=1, 6)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 15 Internal view for US and JP plug type of model DYS830-xyW-z (z=1, 6)

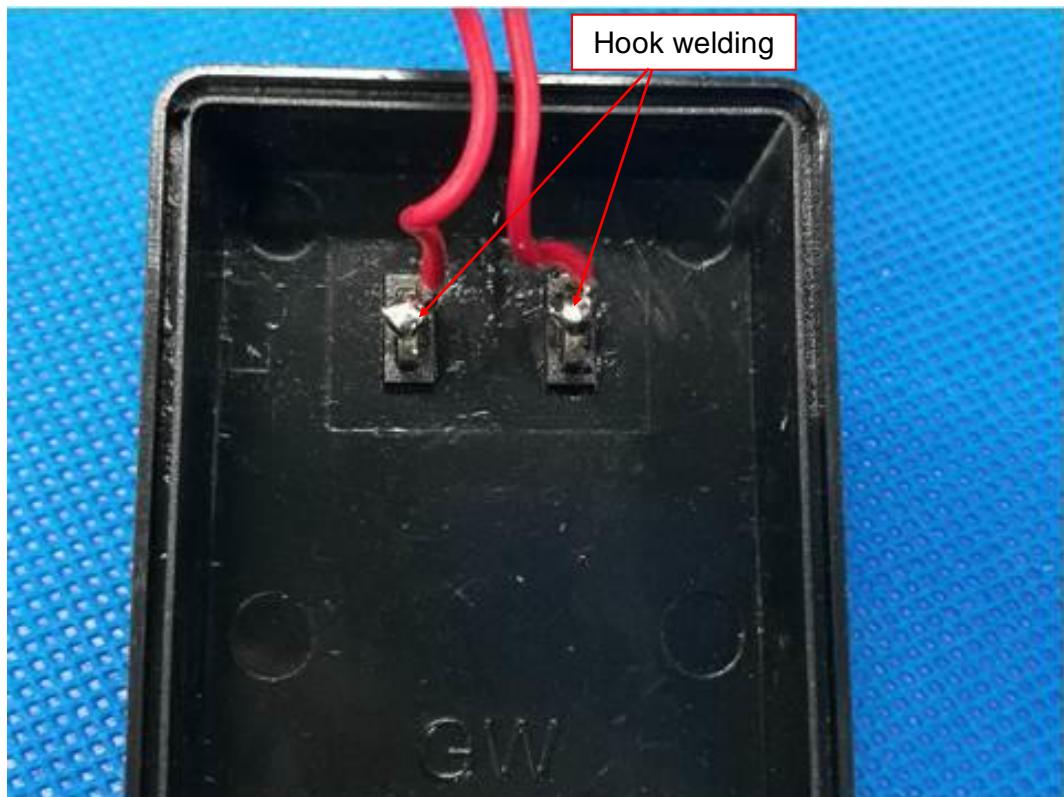


Photo 16 Internal view for US and JP plug type of model DYS830-xyW-z (z=1, 6)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

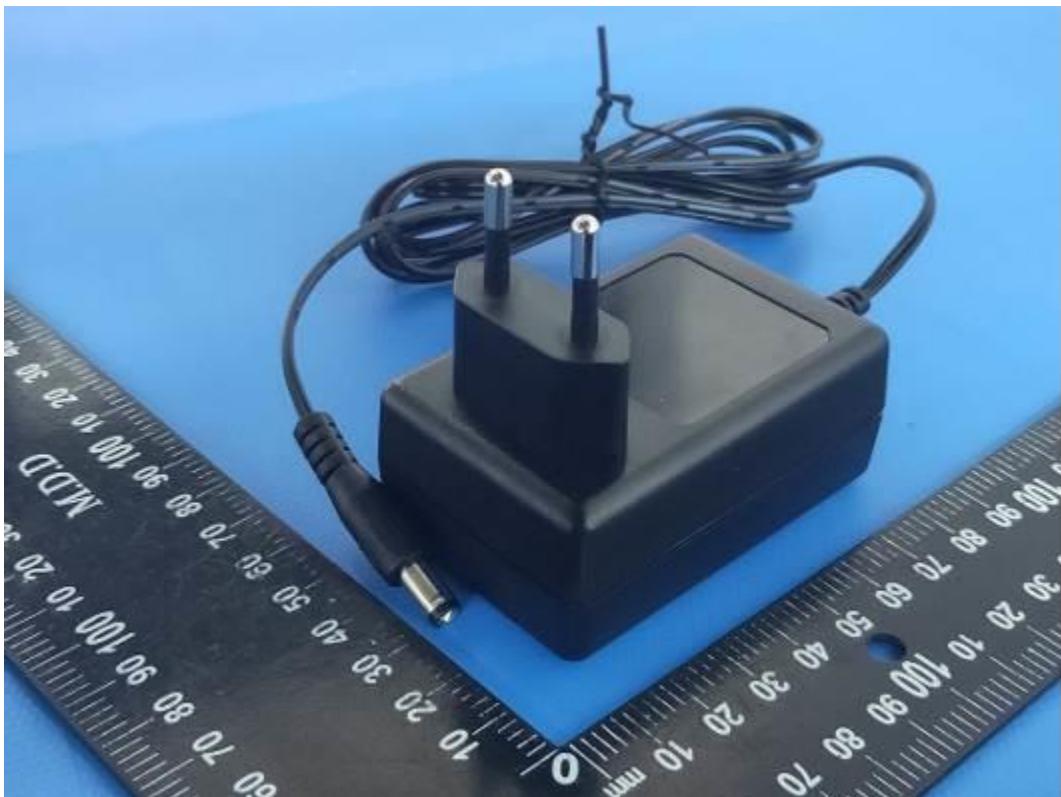


Photo 17 External view for European plug type of model DYS830-xyW-z (z=2)

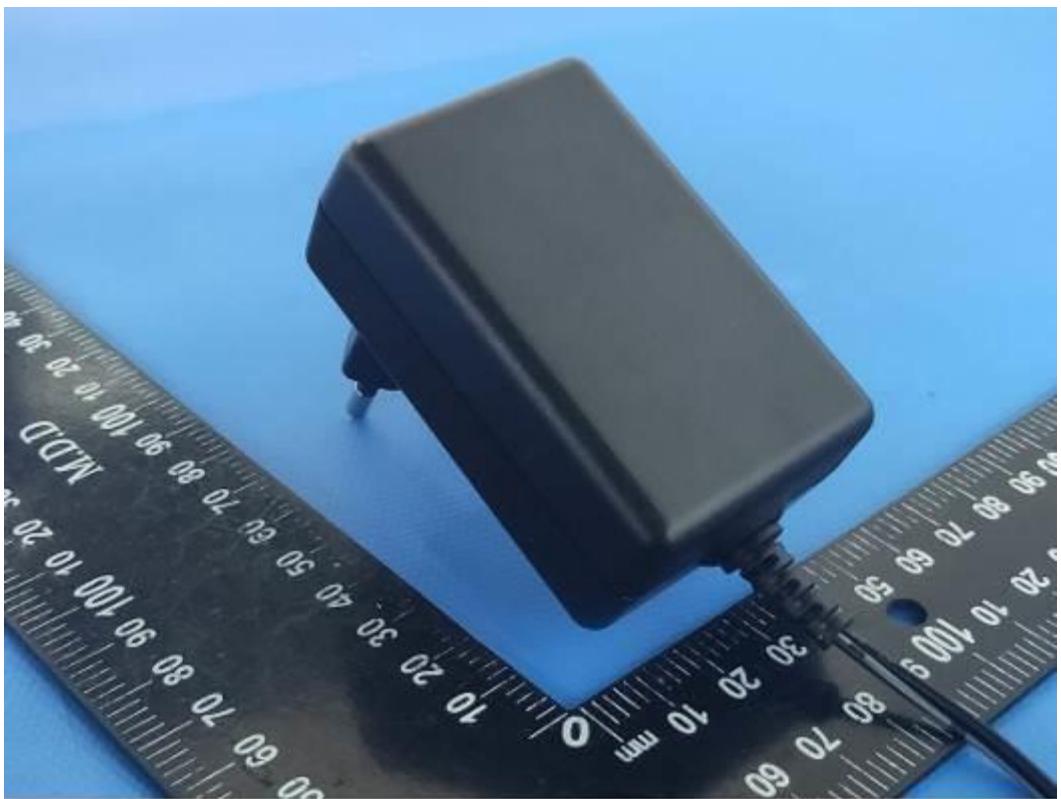


Photo 18 External view for European plug type of model DYS830-xyW-z (z=2)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

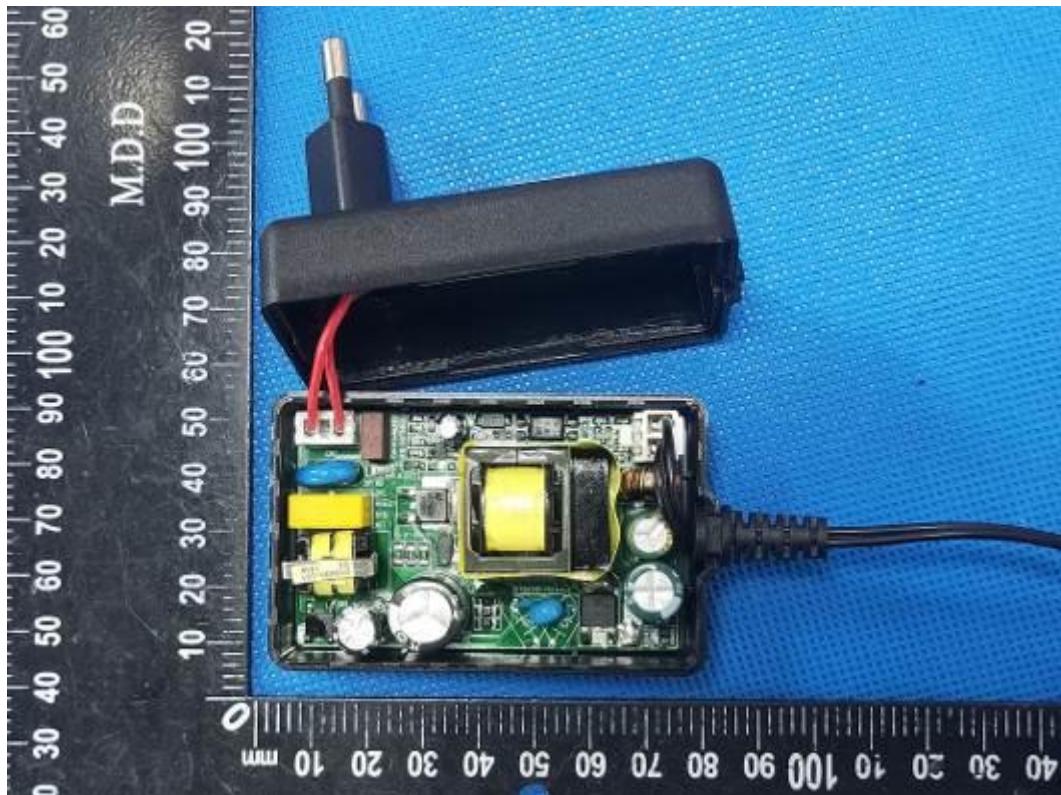


Photo 19 Internal view for European plug type of model DYS830-xyW-z (z=2)



Photo 20 Internal view for European plug type of model DYS830-xyW-z (z=2)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

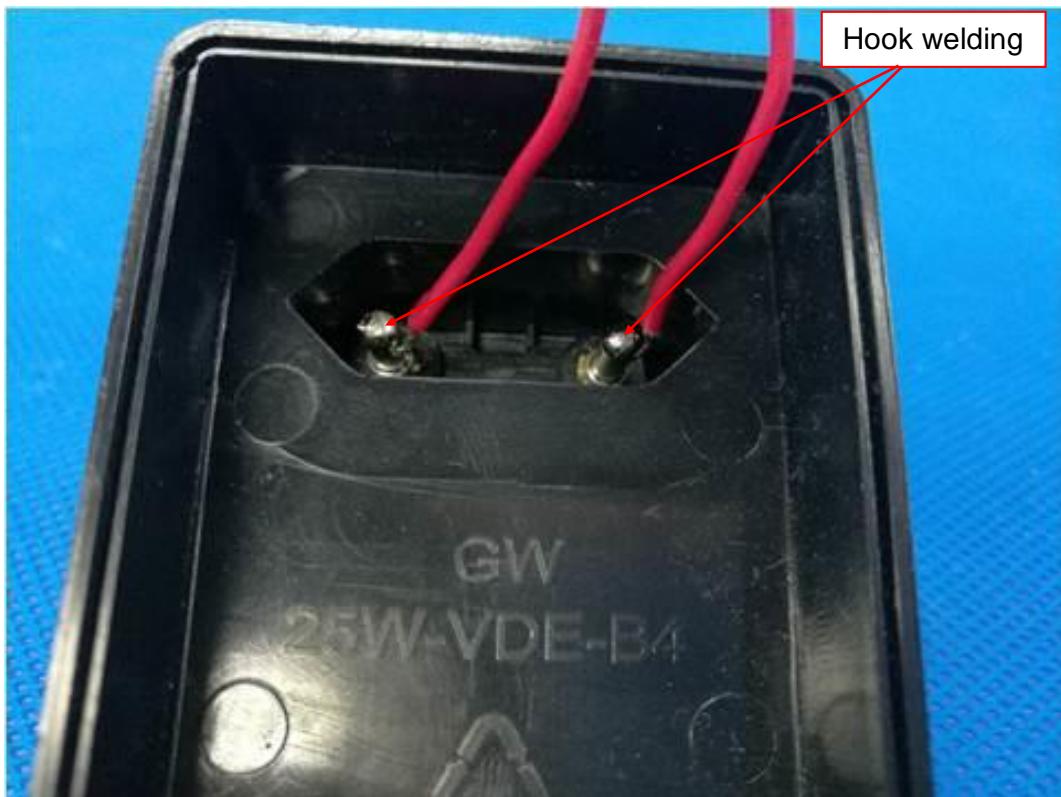


Photo 21 Internal view for European plug type of model DYS830-xyW-z (z=2)

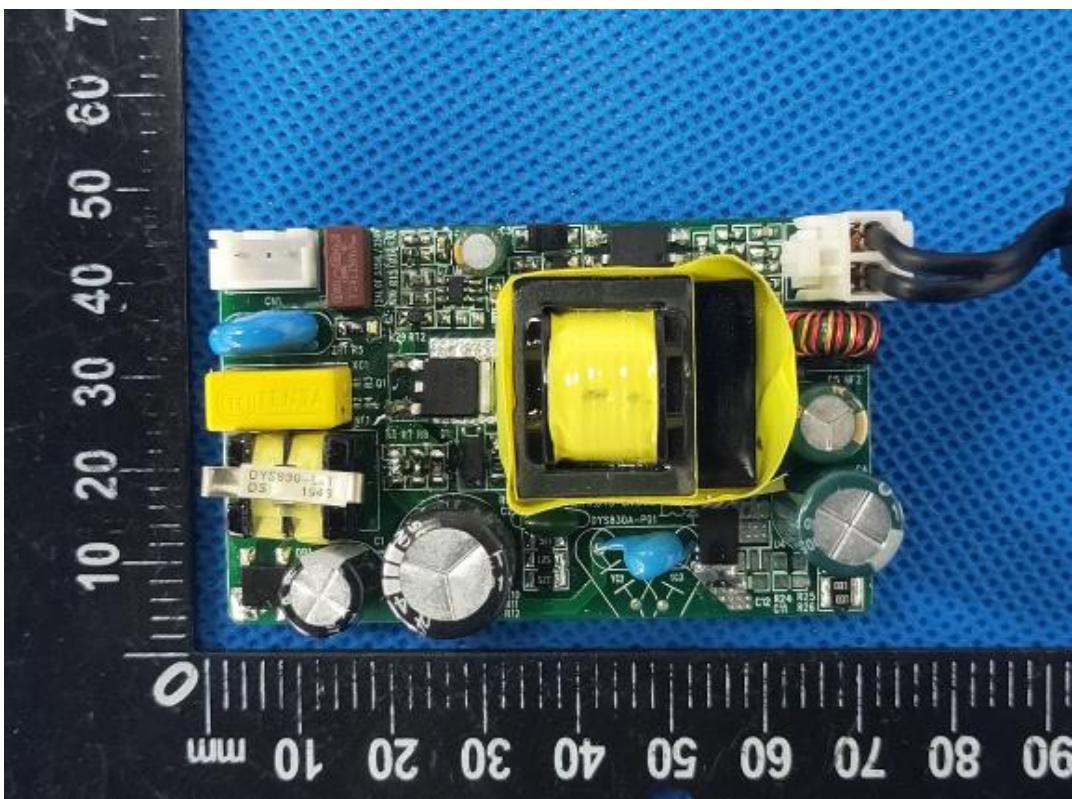


Photo 22 PCB component side view (PCB layout DYS830A-P01)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

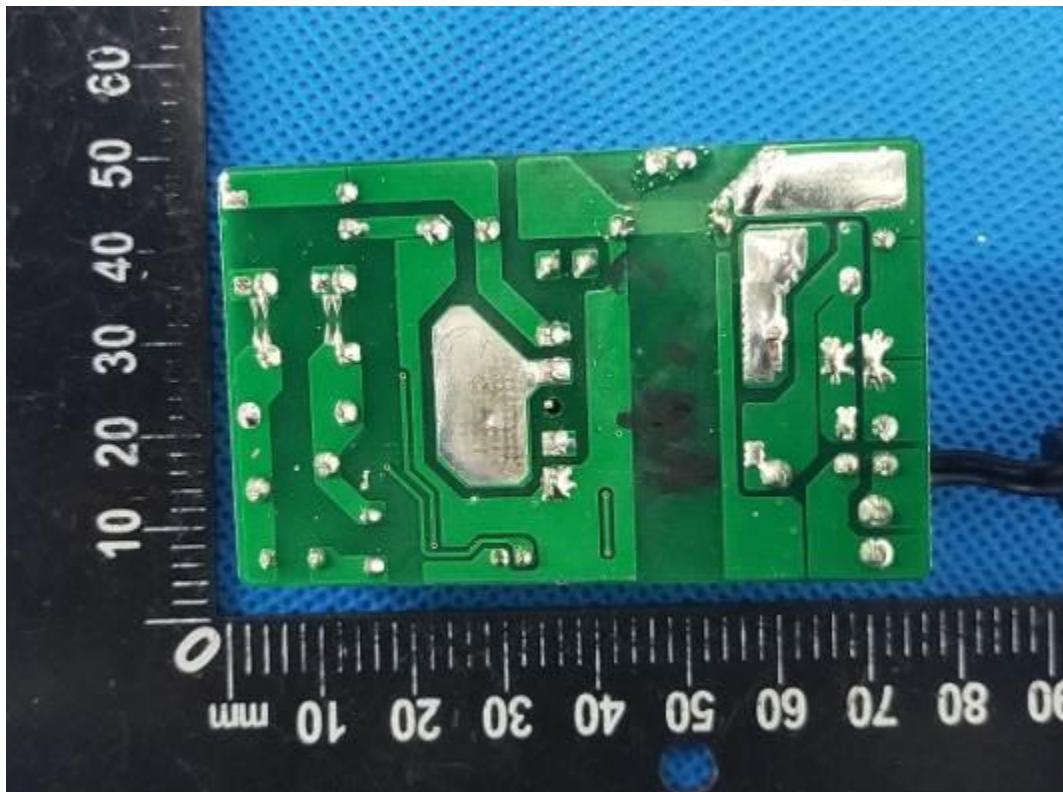


Photo 23 PCB trace side view (PCB layout DYS830A-P01)

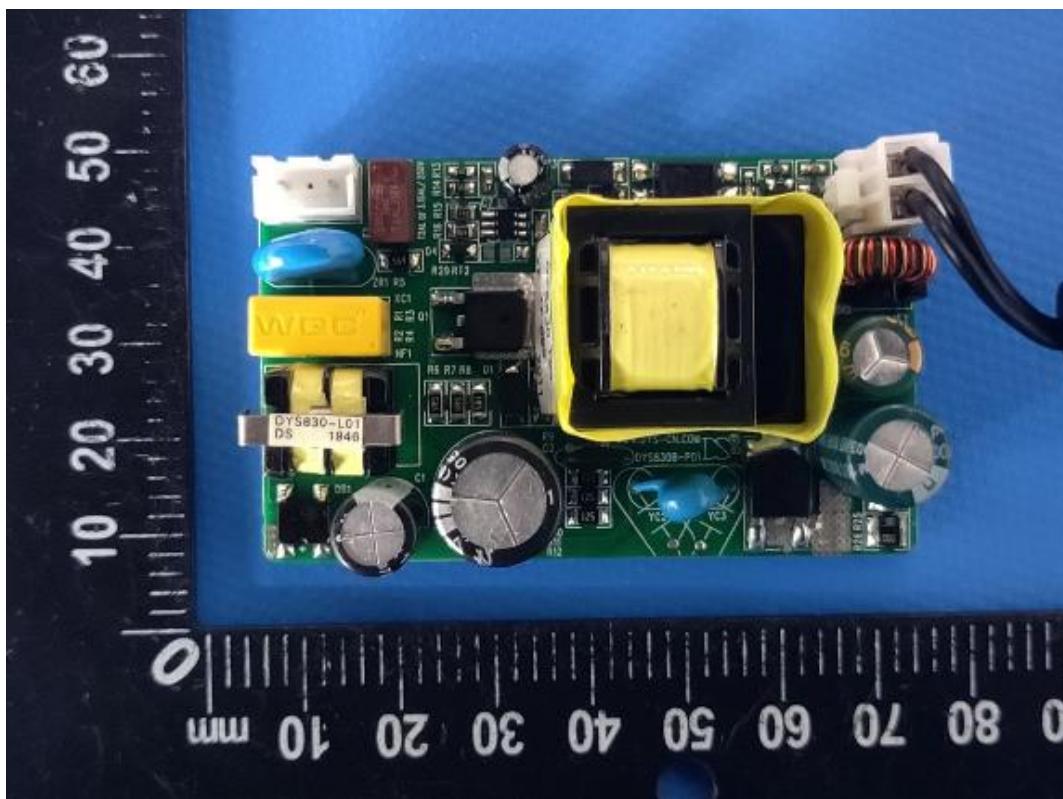


Photo 24 PCB component side view (PCB layout DYS830B-P01)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

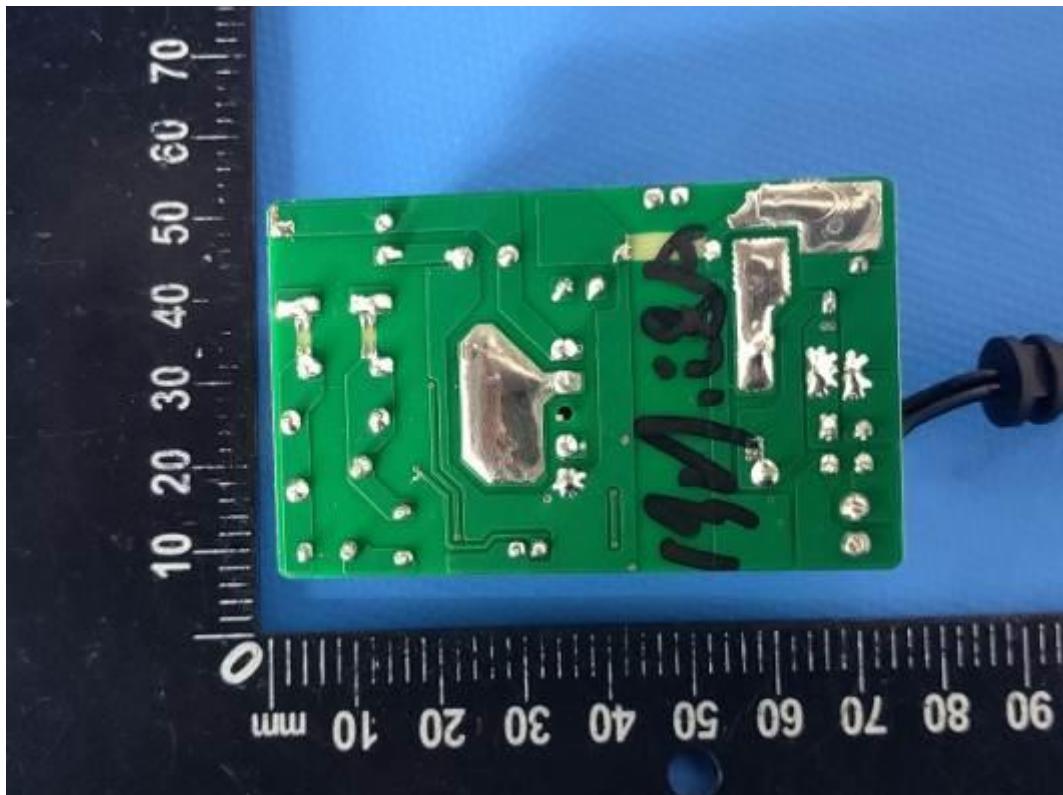


Photo 25 PCB trace side view (PCB layout DYS830B-P01)



Photo 26 External view for model DYS830-xW-y-z (z=K)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 27 External view for model DYS830-xyW-z (z=K)



Photo 28 External view for model DYS830-xyW-z (z=K)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 29 External view for model DYS830-xyW-z (z=K)



Photo 30 Internal view for model DYS830-xyW-z (z=K)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

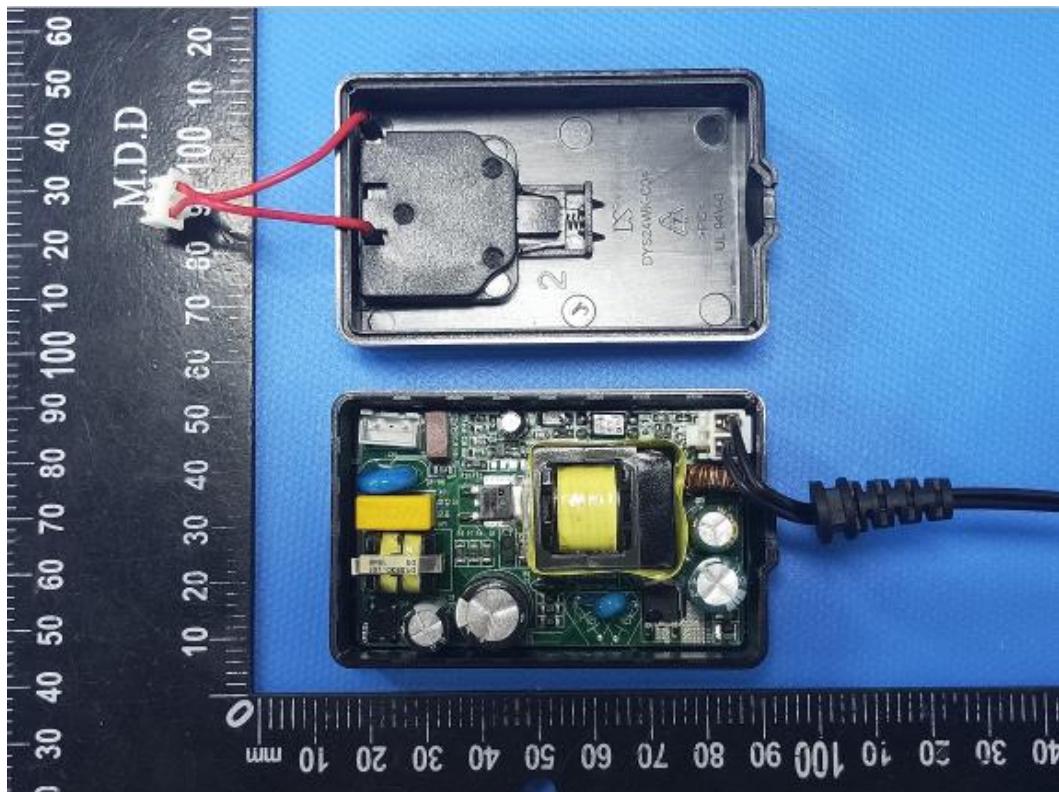


Photo 31 Internal view for model DYS830-xyW-z (z=K)



Photo 32 Internal view for model DYS830-xyW-z (z=K)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 33 Internal view for model DYS830-xyW-z (z=K)



Photo 34 Internal view for model DYS830-xyW-z (z=K)

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 35 External view for model DYS830-xyW



Photo 36 External view for model DYS830-xyW

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)



Photo 37 Internal view for model DYS830-xyW

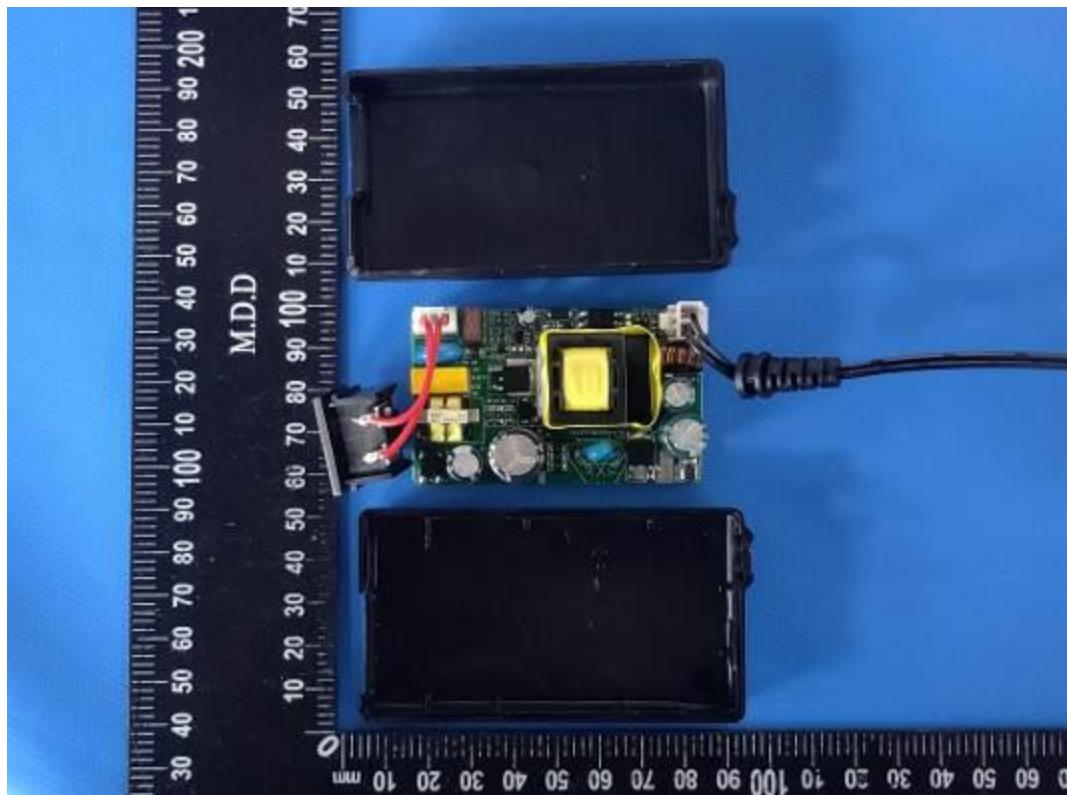


Photo 38 Internal view for model DYS830-xyW

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

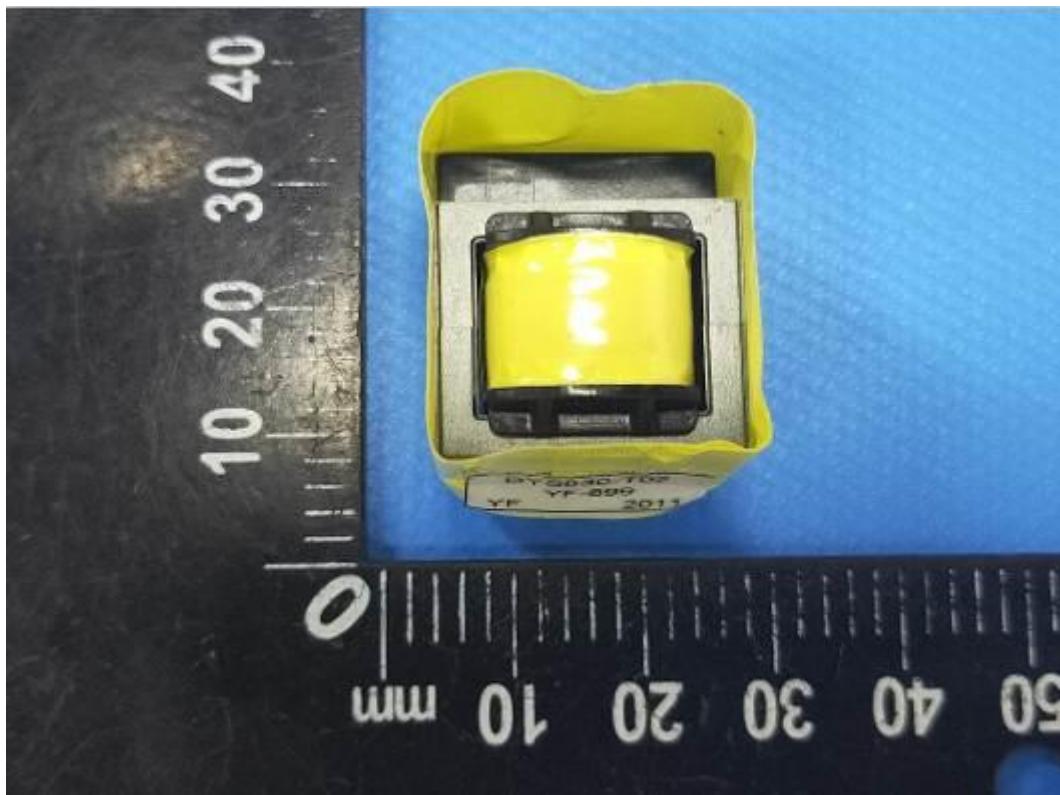


Photo 39 Transformer view

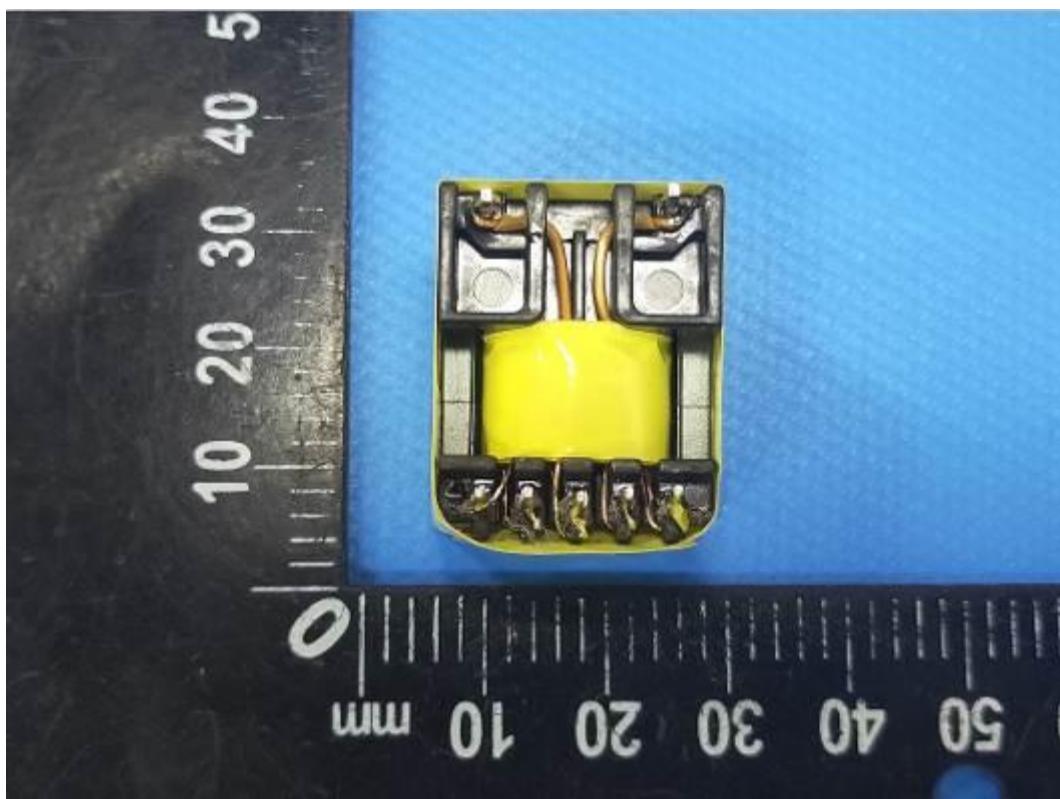


Photo 40

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

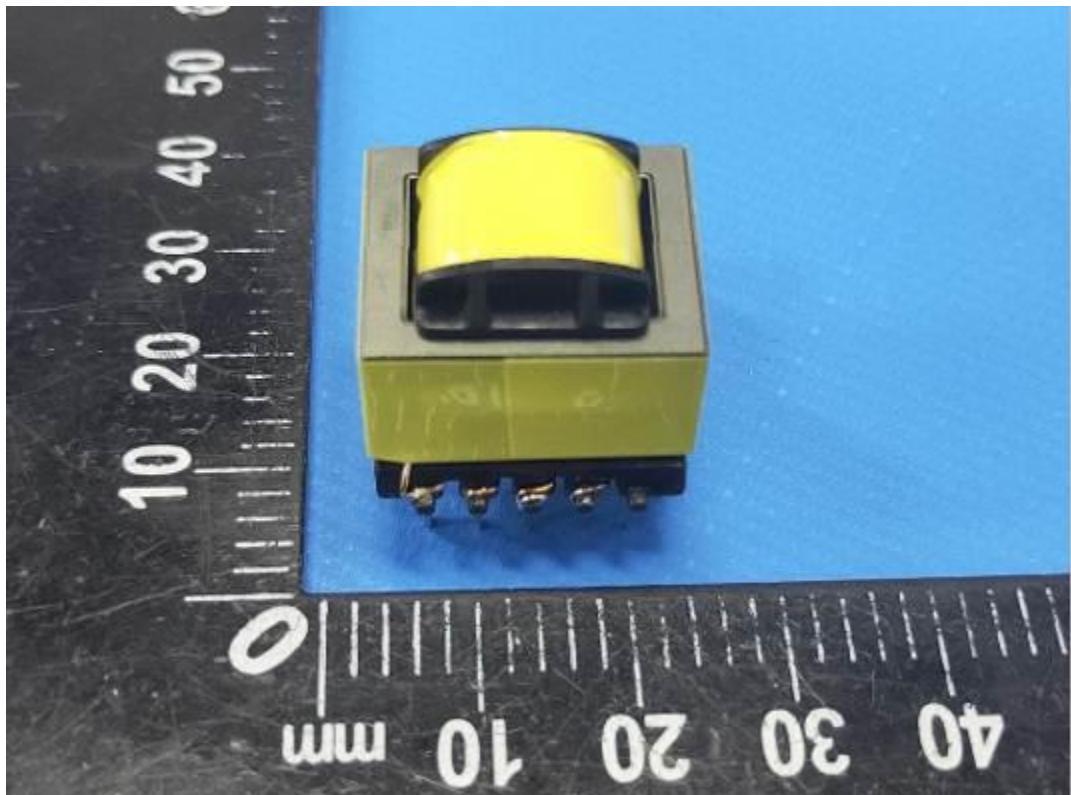


Photo 41

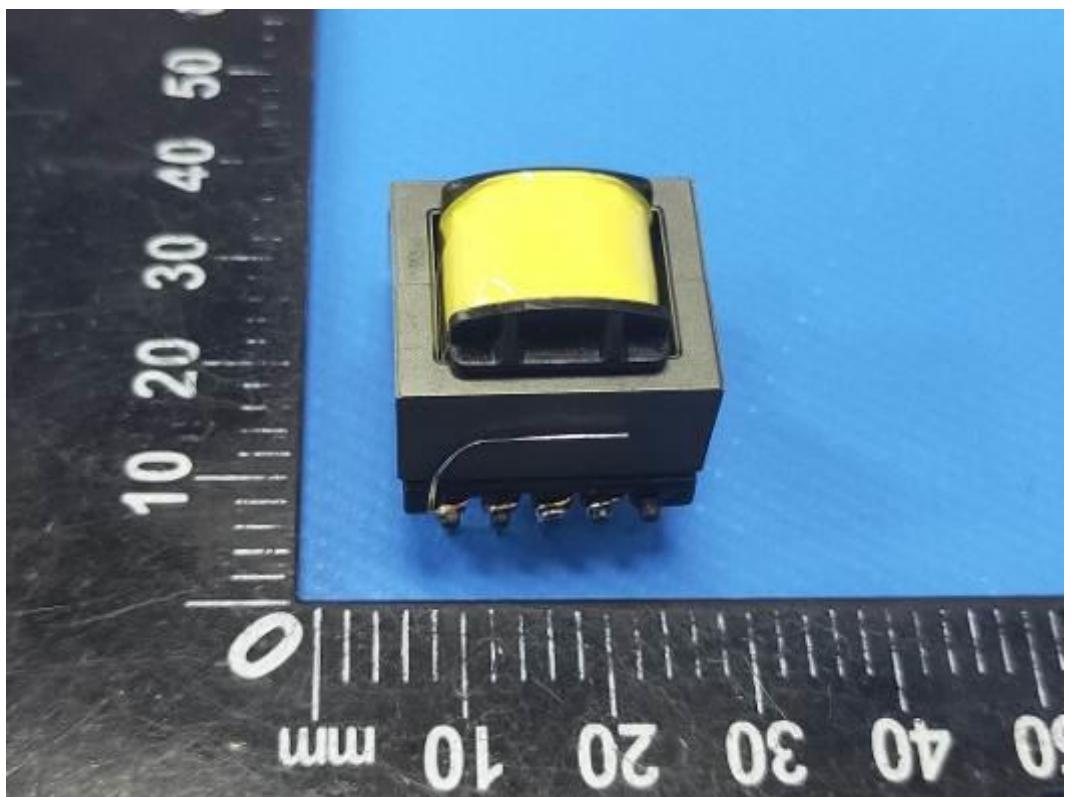


Photo 42

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

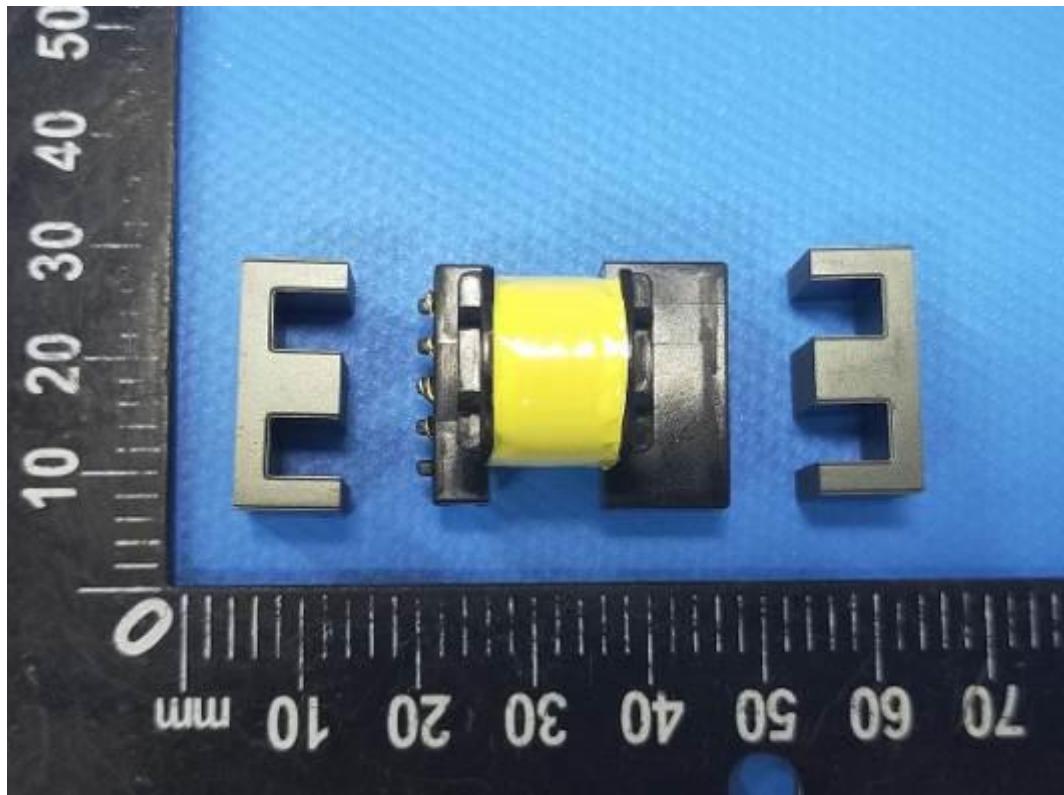


Photo 43

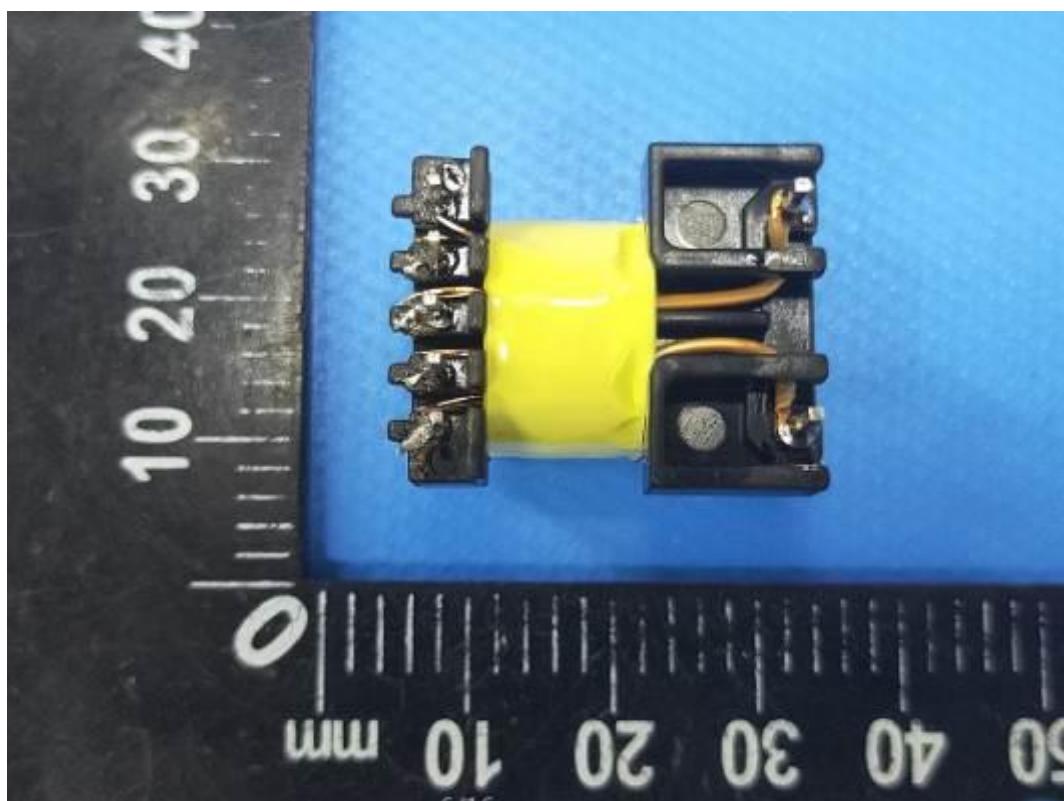


Photo 44

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

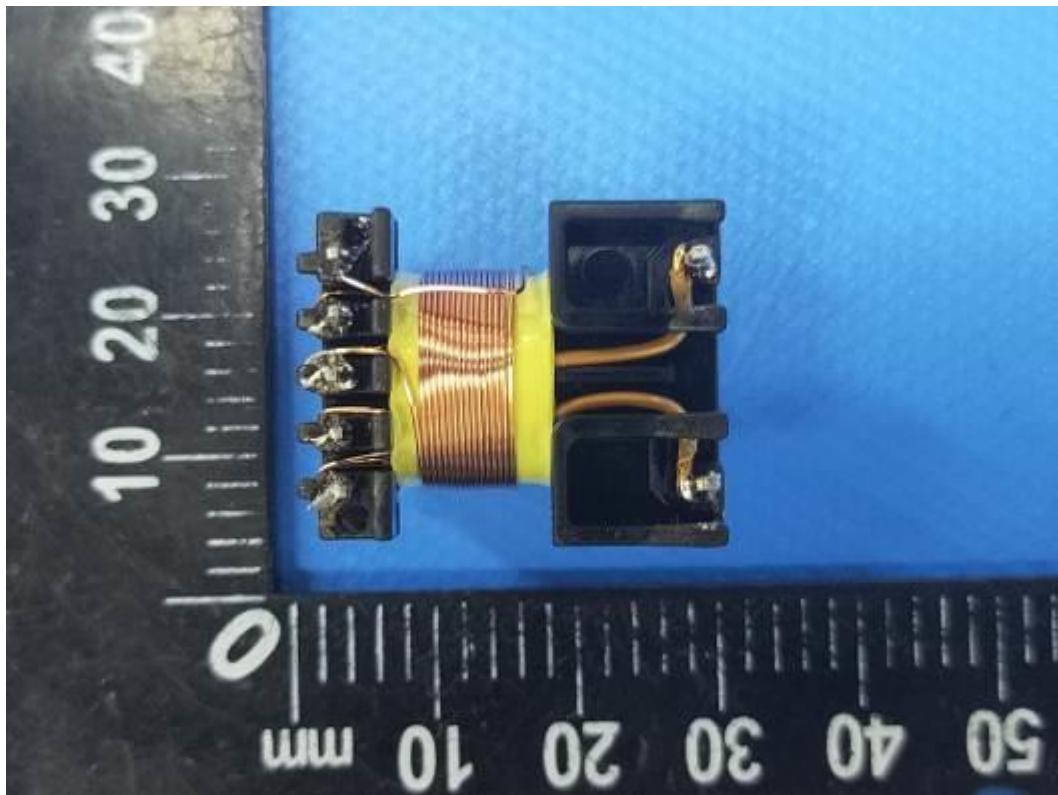


Photo 45

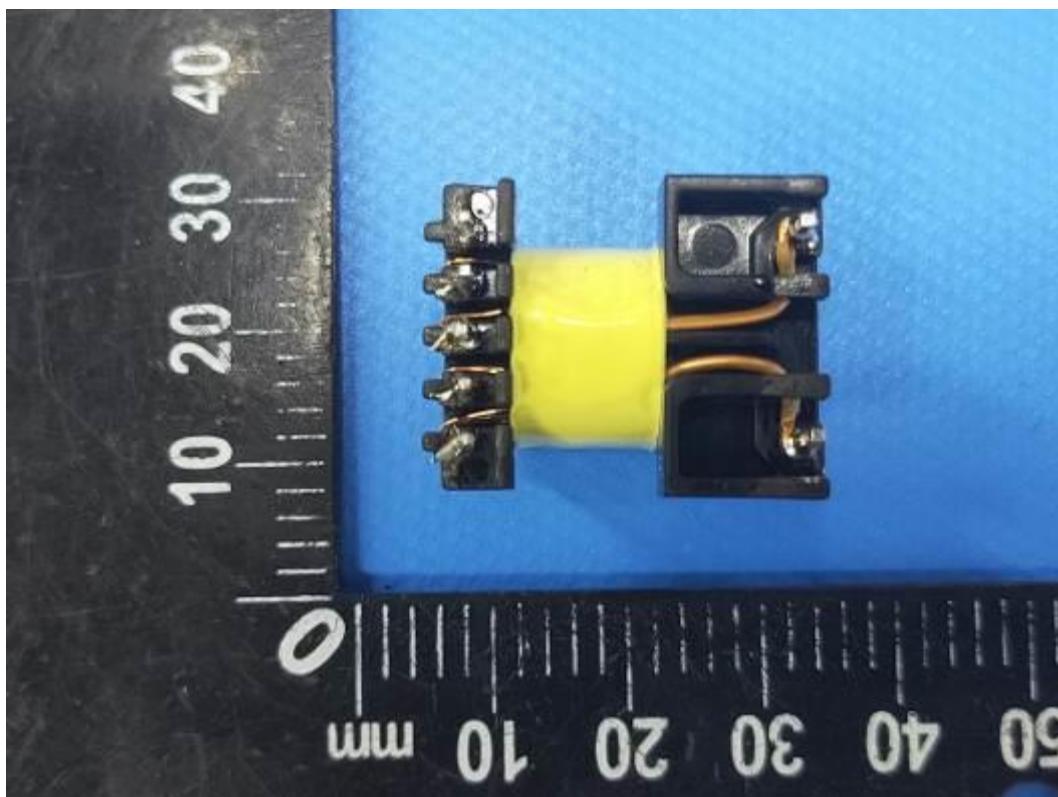


Photo 46

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

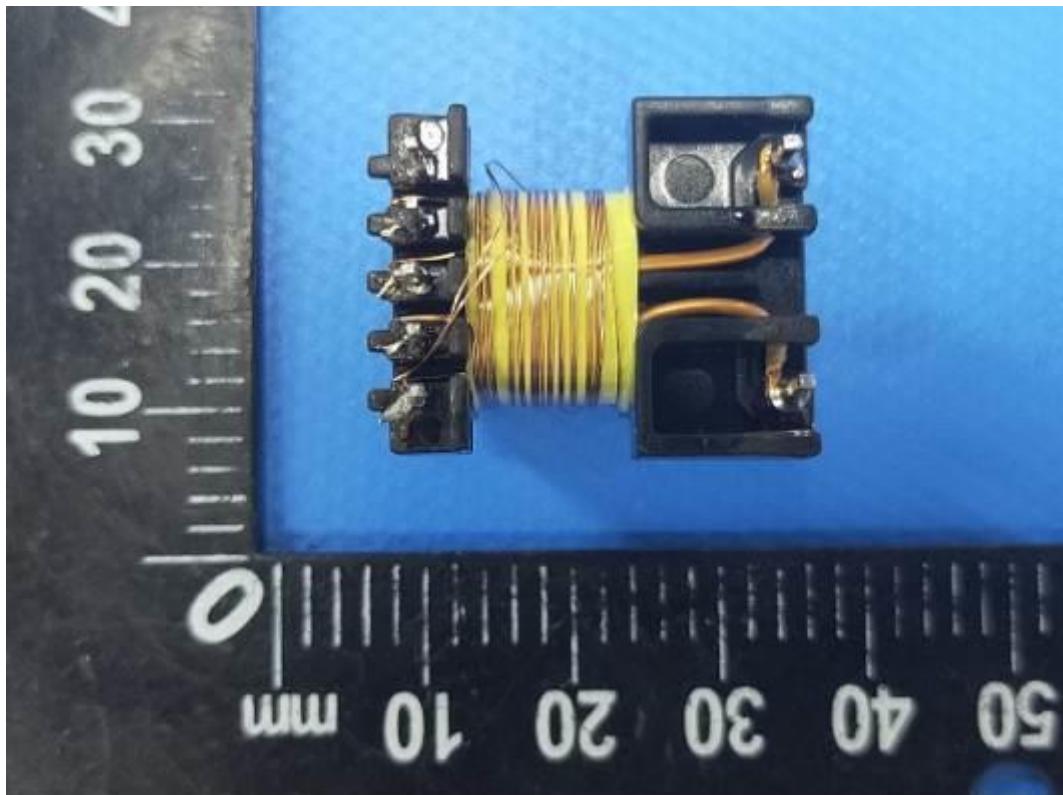


Photo 47

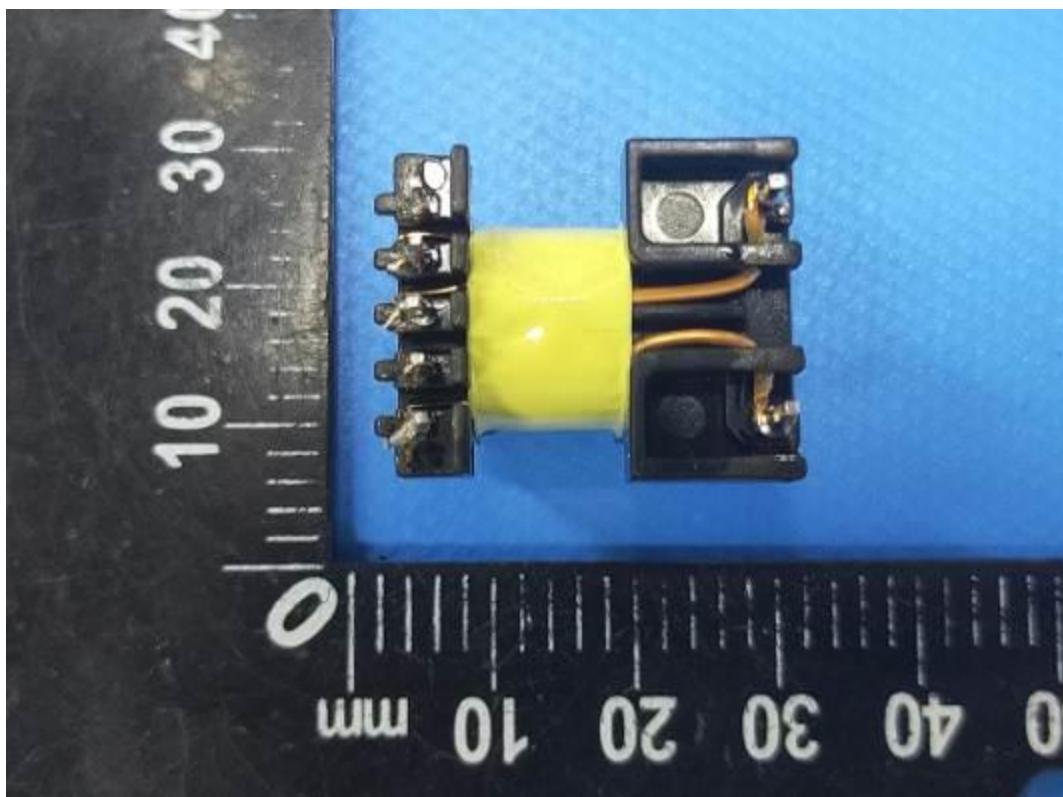


Photo 48

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

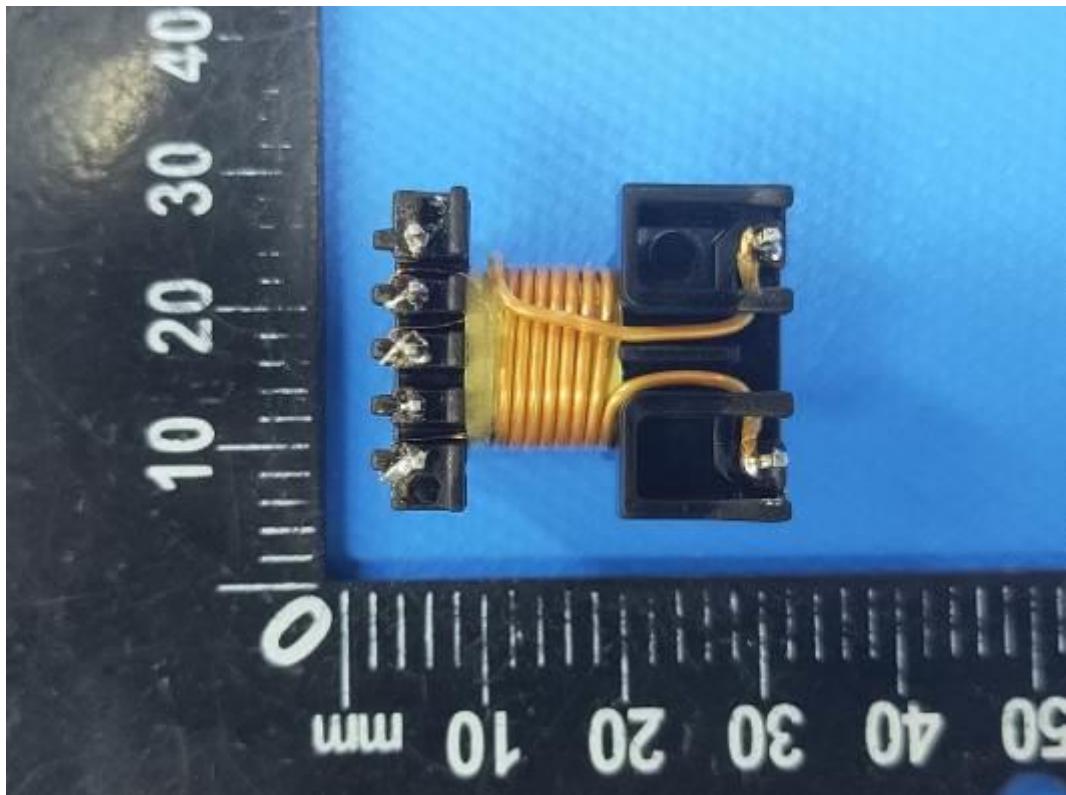


Photo 49

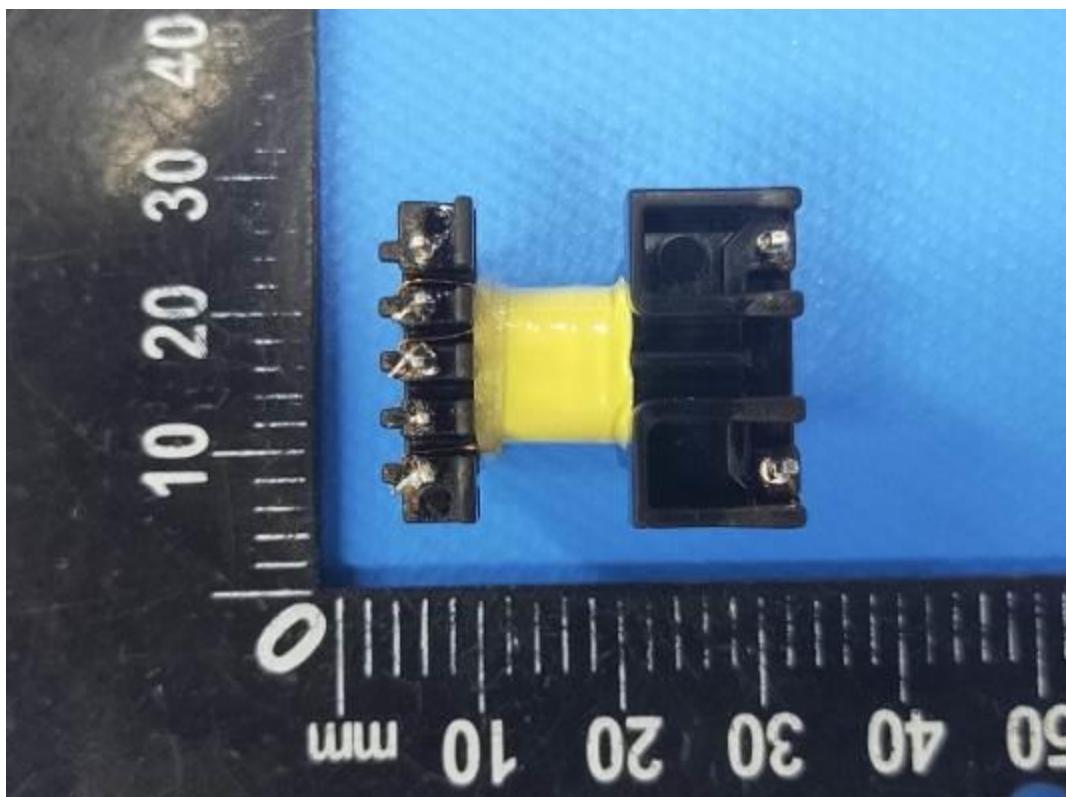


Photo 50

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

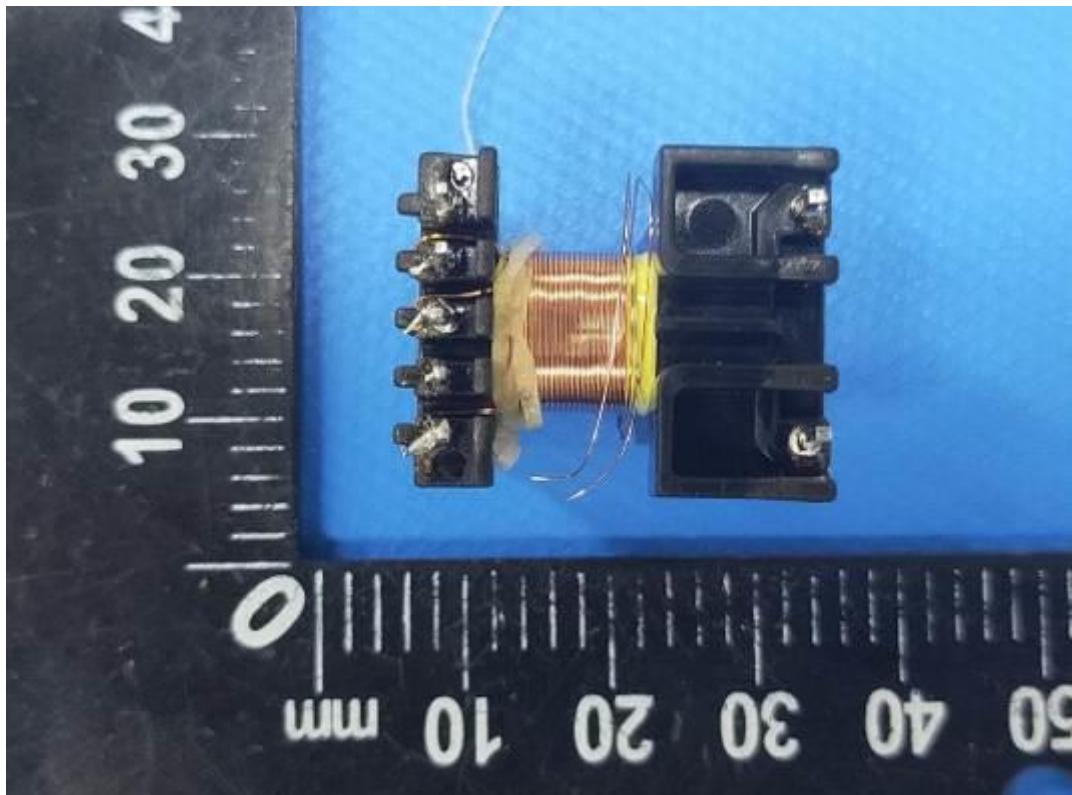


Photo 51

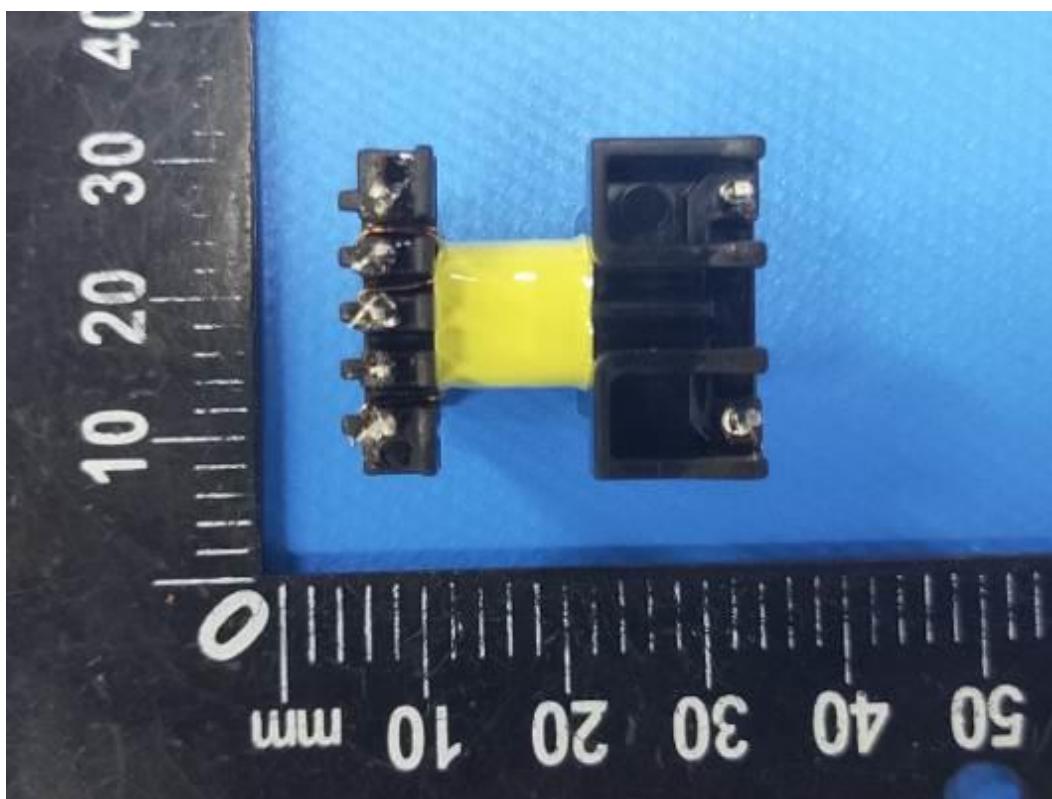


Photo 52

ATTACHMENT 3

Photo Documentation

Report No.: CN25MJ31 001

Product: SWITCHING MODE POWER SUPPLY

Type Designation: DYS830-xyW, DYS830-xyW-z (x=050-300, y=001-400, z=1, 2, 3, 4, 6, 8, 9, 10, 11, 12, 14, 15 or K)

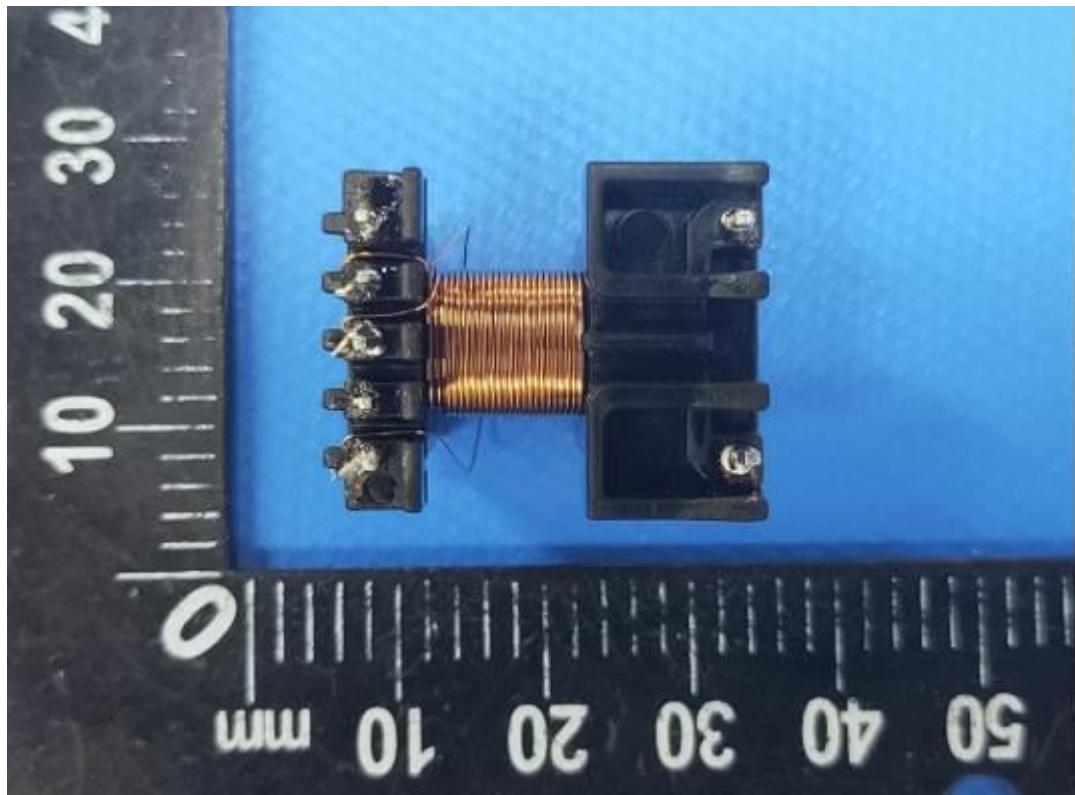


Photo 53

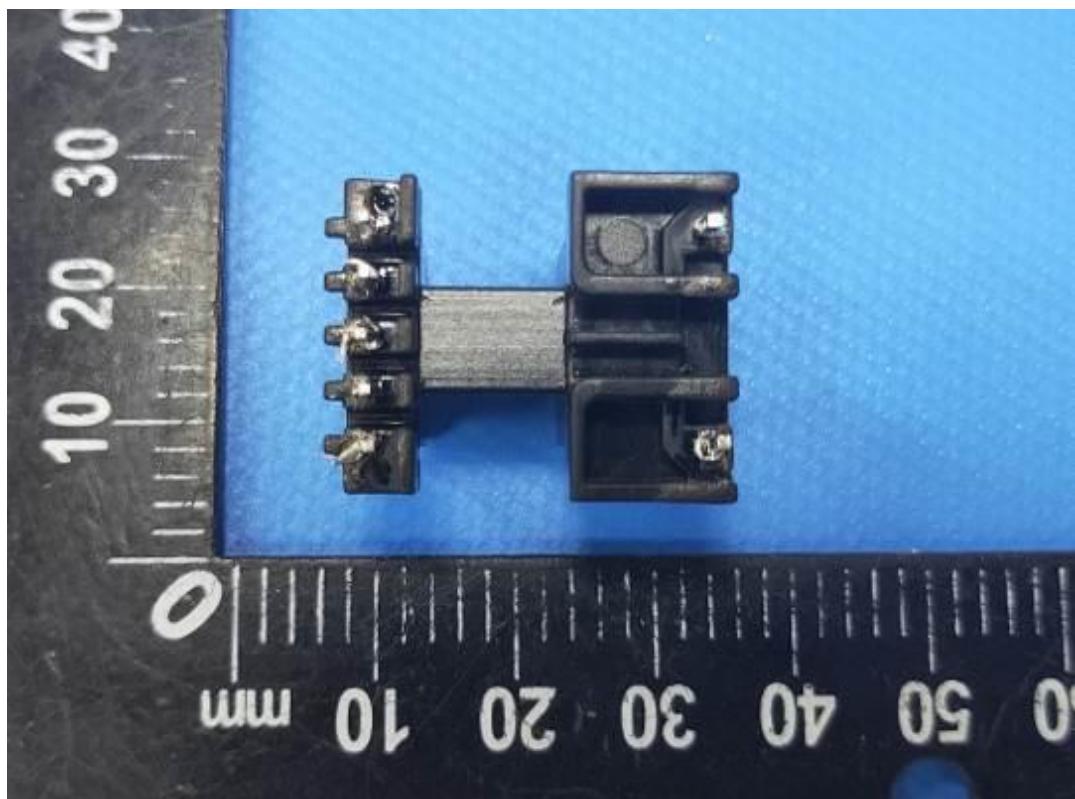


Photo 54