

Test Report issued under the responsibility of:



TEST REPORT IEC 60335-1 Safety of household and similar electrical appliances	
Report Number	Project 4788685352
Date of issue	31 October 2018; reissued 03 December 2018
Total number of pages	105
Name of Testing Laboratory preparing the Report	UL LLC (Northbrook), 333 Pfingsten Road, Northbrook IL, 60062 U.S.A.
Applicant's name	Power Integrations, Inc.
Address	5245 Hellyer Avenue, San Jose, CA 95111 U.S.A.
Test specification:	
Standard	IEC 60335-1 2010 (Fifth Edition) incl. Corr. 1:2010 and Corr. 2:2011 + A1:2013
Test procedure	Informative Report
Non-standard test method	N/A
Test Report Form No.	IEC60335_1W
Test Report Form(s) Originator	Nemko AS
Master TRF	Dated 2015-08
Copyright © 2015 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved.	
This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.	
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.	
General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description	BridgeSwitch Motor Protection Integrated Circuit (IC)	
Trade Mark.....		
Manufacturer.....	Same as Applicant	
Model/Type reference.....	1) BRD1160C, BRD1260C 2) BRD1161C, BRD1261C 3) BRD1163C, BRD1263C 4) BRD1165C, BRD1265C	
Ratings	1) DC340V, 0.22A 2) DC340V, 0.5A 3) DC340V, 0.75A 4) DC340V, 1.0 A	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	UL LLC (Northbrook)
Testing location/ address		333 Pfungsten Road Northbrook, IL 60062 U.S.A
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address		
Tested by (name, function, signature).....		Vladimir Ivetic (Handler) 
Approved by (name, function, signature)...		Patrick Hittman (Reviewer) 
<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):	
Attachment 1 – Photographs (2 pages)	
Attachment 2 – Reference Design DER-654 and Test Results (40 pages)	
Attachment 3 – Single Fault Test Results (4 pages)	
Attachment 4 – Test Report IEC 60730-1 (96 pages)	
Summary of testing: As this is an Informative report, testing referenced below was done for reference only and not necessarily following requirements of the CB Scheme and/or the UL LLC. accreditation requirements.	
Tests performed (name of test and test clause):	Testing location:
11 Heating	Power Integrations
19.7 Abnormal operation - Locked motor rotor	5245 Hellyer Avenue
19.8 Abnormal operation - Multi-phase disconnection	San Jose, CA 95111 U.S.A.
19.9 Abnormal operation - Running overload	
19.11 Abnormal operation – Electronic circuits	
30.1 Ball pressure test	

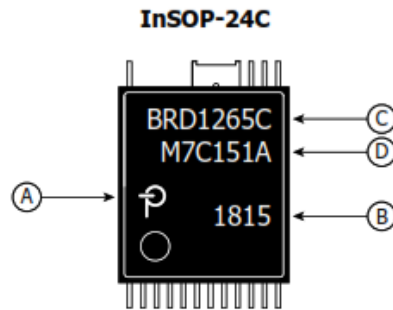
Summary of compliance with National Differences (List of countries addressed):

European Group Differences (for this type of product it was determined there was no need to publish a separate Group Differences TRF)

The product fulfils the requirements of EN60335-1, 2014 Amendment 13

Copy of marking plate:

ICs are only provided with Manufacturer's Trademark and model number

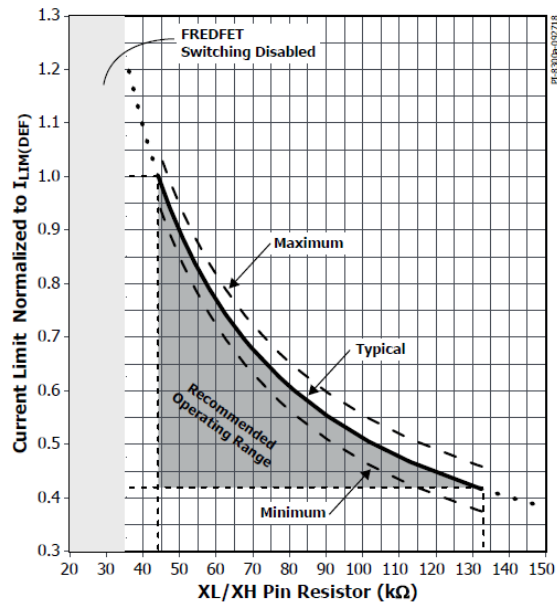


- A. Power Integrations Registered Trademark
- B. Assembly Date Code (last two digits of year followed by 2-digit work week)
- C. Product Identification (Part #/Package Type)
- D. Lot Identification Code

Test item particulars : Component for use in Protective Electronic Circuit Applications – Partial Evaluation/Test Program	
Classification of installation and use:	
Supply Connection : To be assessed in end appliance application :	
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 : As this is an Informative report, testing referenced in this Report was done for reference only.	
Date of receipt of test item : March 18, 2018	
Date (s) of performance of tests : March 18 to May 18, 2018	
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 <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IECCE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) :	UTAC Thai Limited (UTL3) Wellgrow Industrial Estate 73 Moo 5, Bangna-Trad (Km.36) Chachoengsao 24180 Thailand

General product information:

The BridgeSwitch™ family of integrated circuits have integral high and low-side FETs that drive an external motor coil and provide protection to that motor. From the rectified DC input, the internal FETs switch the DC to provide a switched output to each motor coil under normal conditions, and are used to provide a micro-interrupt to introduce impedance in the output path to the motor under abnormal conditions, such as overload, stalled rotor and loss of phase. These devices may be constructed with differently rated FETs which are associated with different models as shown on Page 1 with different continuous current ratings. The ICs have external resistors – called RXL for the low side and RXH for the high side FET – of certain resistance values to set the current limit threshold. For example, for the 3.0A rated model, a 100kohms selection for these resistors will result in a current limit threshold of 1.5A (-0.50 factor from graph x 3.0A); and a 44.2kohm selection of resistors in the design would result in 3.0A (1.0 factor from graph x 3.0A). The components are normally provided with an input of a DC high-voltage bus where the typical application is to have the nominal input voltage of AC240V rectified, for DC340V.



The IC is considered suitable to be used in a protective electronic circuit (PEC) to mitigate the following abnormal conditions using the inherent current protection logic:

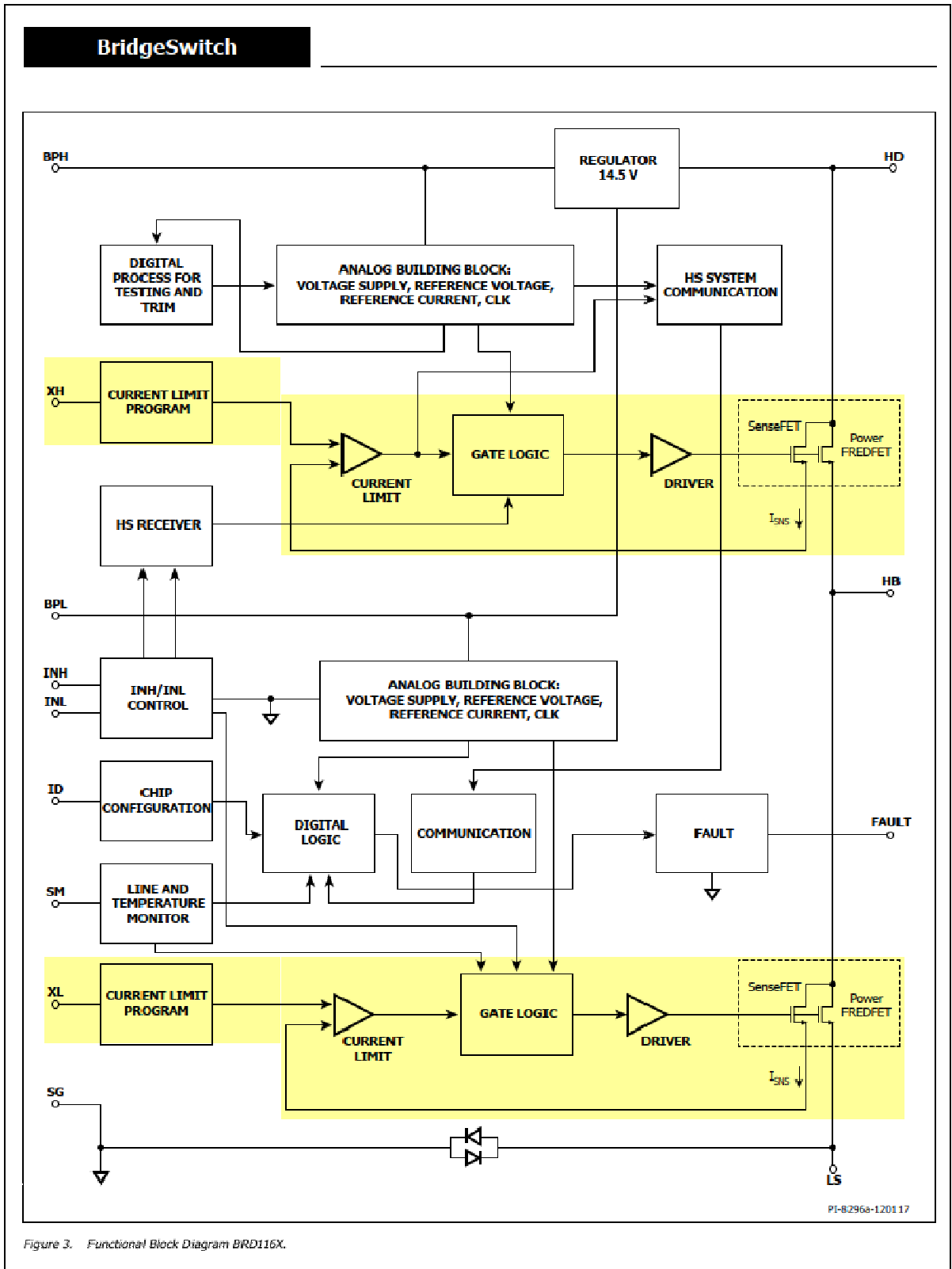
- Stalled motor/locked rotor per Clause 19.7;
- Loss of phase protection per Clause 19.8; although the loss of phase is typically considered losing one phase for a three-phase AC system, such testing was conducted for losing one of the DC phases of a three-phase DC brushless motor.
- Motor overload per Clause 19.9;

From IEC60730-1, as shown in Attachment 3, the micro-interruption of the output voltage to the motor was evaluated as a Type 2.Y control with Class B hardware control function (no software dependency).

Three ICs were tested in a reference design called DER-654, which is a board assembly detailed in Attachment 2, configured to have RXL and RXH resistors for limiting the values shown therein, and tested with a representative motor (Shunde Hopmotion, Type 57BL110S30-3150TFO)

Notes on Evaluation:

- Only the inherent current protection features were considered in this evaluation (for their suitability to be used in the PECS identified above).
- The EMC immunity testing of the protective electronic circuit (PEC) per Clause 19.11.4 should be considered in the end product evaluation.



IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		P
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.	DC bus input for component	P
6	CLASSIFICATION		
6.1	Protection against electric shock: Class 0, 0I, I, II, III..... :	Component may be installed in Class I or II equipment but not provided with means for grounding, to be considered in the end product application	N/A
6.2	Protection against harmful ingress of water	To be assessed in the end product application	N/A
7	MARKING AND INSTRUCTIONS		N/A
7.1	Rated voltage or voltage range (V)..... :	This is a component and not the end appliance, to be assessed in the end product application	N/A
	Symbol for nature of supply, or :	See above	N/A
	Rated frequency (Hz)..... :	See above	N/A
	Rated power input (W), or :	See above	N/A
	Rated current (A) :	See above	N/A
	Manufacturer's or responsible vendor's name, trademark or identification mark :	See above	N/A
	Model or type reference..... :	See above	N/A
	Symbol IEC 60417-5172, for class II appliances	See above	N/A
	IP number, other than IPX0 :	See above	N/A
	Symbol IEC 60417-5180, for class III appliances, unless	See above	N/A
	the appliance is operated by batteries only	See above	N/A
	Symbol IEC 60417-5018, for class II and class III appliances incorporating a functional earth	See above	N/A
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage	See above	N/A
7.2	Warning for stationary appliances for multiple supply	See 7.1	N/A
	Warning placed in vicinity of terminal cover	See 7.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen	See 7.1	N/A
	Different rated values marked with the values separated by an oblique stroke	See 7.1	N/A
7.4	Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible	See 7.1	N/A
	Requirement met if frequent changes are not required and the rated voltage or rated frequency to which the appliance is to be adjusted is determined from a wiring diagram	See 7.1	N/A
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless	See 7.1	N/A
	the power input or current are related to the arithmetic mean value of the rated voltage range	See 7.1	N/A
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear	See 7.1	N/A
7.6	Correct symbols used	See 7.1	N/A
	Symbol for nature of supply placed next to rated voltage	See 7.1	N/A
	Symbol for class II appliances placed unlikely to be confused with other marking	See 7.1	N/A
	Units of physical quantities and their symbols according to international standardized system	See 7.1	N/A
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless	See 7.1	N/A
	correct mode of connection is obvious	See 7.1	N/A
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		N/A
	- marking of terminals exclusively for the neutral conductor (letter N)	See 7.1	N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)	See 7.1	N/A
	- marking of functional earthing terminals (symbol IEC 60417-5018)	See 7.1	N/A
	- marking not placed on removable parts	See 7.1	N/A
7.9	Marking or placing of switches which may cause a hazard	See 7.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means	See 7.1	N/A
	This applies also to switches which are part of a control	See 7.1	N/A
	If figures are used, the off position indicated by the figure 0	See 7.1	N/A
	The figure 0 indicates only OFF position, unless no confusion with the OFF position	See 7.1	N/A
7.11	Indication for direction of adjustment of controls	See 7.1	N/A
7.12	Instructions for safe use provided	See 7.1	N/A
	Details concerning precautions during user maintenance	See 7.1	N/A
	The instructions state that:		N/A
	- the appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction	See 7.1	N/A
	- children being supervised not to play with the appliance	See 7.1	N/A
	For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided	See 7.1	N/A
	Instructions for class III appliances state that it must only be supplied at SELV, unless	See 7.1	N/A
	it is a battery-operated appliance, the battery being charged outside the appliance	See 7.1	N/A
	For appliances for altitudes exceeding 2000 m, the maximum altitude is stated	See 7.1	N/A
	The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only	See 7.1	N/A
7.12.1	Sufficient details for installation supplied	See 7.1	N/A
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated	See 7.1	N/A
	If different rated voltages or different rated frequencies are marked, the instructions state what action to be taken to adjust the appliance	See 7.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.12.2	Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules	See 7.1	N/A
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions state that the fixed wiring must be protected	See 7.1	N/A
7.12.4	Instructions for built-in appliances:		N/A
	- dimensions of space	See 7.1	N/A
	- dimensions and position of supporting and fixing	See 7.1	N/A
	- minimum distances between parts and surrounding structure	See 7.1	N/A
	- minimum dimensions of ventilating openings and arrangement	See 7.1	N/A
	- connection to supply mains and interconnection of separate components	See 7.1	N/A
	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless	See 7.1	N/A
	a switch complying with 24.3	See 7.1	N/A
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord	See 7.1	N/A
	Replacement cord instructions, type Y attachment	See 7.1	N/A
	Replacement cord instructions, type Z attachment	See 7.1	N/A
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard	See 7.1	N/A
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed	See 7.1	N/A
7.12.8	Instructions for appliances connected to the water mains:		N/A
	- max. inlet water pressure (Pa) :	See 7.1	N/A
	- min. inlet water pressure, if necessary (Pa) :	See 7.1	N/A
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets	See 7.1	N/A
7.13	Instructions and other texts in an official language	See 7.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
7.14	Marking clearly legible and durable, rubbing test as specified	See 7.1	N/A
7.15	Markings on a main part	See 7.1	N/A
	Marking clearly discernible from the outside, if necessary after removal of a cover	See 7.1	N/A
	For portable appliances, cover can be removed or opened without a tool	See 7.1	N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation	See 7.1	N/A
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions	See 7.1	N/A
	Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading	See 7.1	N/A
	The symbol IEC 60417-5018 placed next to the symbol IEC 60417-5172 or IEC 60417-5180	See 7.1	N/A
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link	See 7.1	N/A
8	PROTECTION AGAINST ACCESS TO LIVE PARTS		N/A
8.1	Adequate protection against accidental contact with live parts	This is a component and not the end appliance, to be assessed in the end appliance application	N/A
8.1.1	Requirement applies for all positions, detachable parts removed	See 8.1	N/A
	Lamps behind a detachable cover not removed, if conditions met	See 8.1	N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap	See 8.1	N/A
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts	See 8.1	N/A
	Use of test probe B of IEC 61032 through openings, with a force of 20N: no contact with live parts	See 8.1	N/A
8.1.2	Use of test probe 13 of IEC 61032, with a force not exceeding 1 N, through openings in class 0 appliances and class II appliances/constructions: no contact with live parts	See 8.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts	See 8.1	N/A
8.1.3	For appliances other than class II, use of test probe 41 of IEC 61032, with a force not exceeding 1 N: no contact with live parts of visible glowing heating elements	See 8.1	N/A
8.1.4	Accessible part not considered live if:		N/A
	- safety extra-low a.c. voltage: peak value not exceeding 42.4 V	See 8.1	N/A
	- safety extra-low d.c. voltage: not exceeding 42.4 V	See 8.1	N/A
	- or separated from live parts by protective impedance	See 8.1	N/A
	If protective impedance: d.c. current not exceeding 2 mA, and	See 8.1	N/A
	a.c. peak value not exceeding 0.7 mA	See 8.1	N/A
	- for peak values over 42.4 V up to and including 450 V, capacitance not exceeding 0,1 μ F	See 8.1	N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μ C	See 8.1	N/A
	- for peak values over 15kV, the energy in the discharge not exceeding 350 mJ	See 8.1	N/A
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		N/A
	- built-in appliances	See 8.1	N/A
	- fixed appliances	See 8.1	N/A
	- appliances delivered in separate units	See 8.1	N/A
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only	See 8.1	N/A
	Only possible to touch parts separated from live parts by double or reinforced insulation	See 8.1	N/A
9	STARTING OF MOTOR-OPERATED APPLIANCES		N/A
	Requirements and tests are specified in part 2 when necessary	No applicable Part 2 for this component, to be assessed in end appliance application.	N/A
10	POWER INPUT AND CURRENT		N/A
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1. :	(see appended table) to be assessed in end appliance application.	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the power input is the arithmetic mean value		N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated power input is related to the arithmetic mean value		N/A
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2 :	(see appended table) See 10.1	N/A
	If the current varies throughout the operating cycle and the maximum value of the current exceeds, by a factor greater than two, the arithmetic mean value of the current occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period	See 10.1	N/A
	Otherwise the current is the arithmetic mean value	See 10.1	N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless	See 10.1	N/A
	the rated current is related to the arithmetic mean value of the range	See 10.1	N/A
11	HEATING		P
11.1	No excessive temperatures in normal use		P
11.2	The appliance is held, placed or fixed in position as described :	Tested with reference design (Attachment 2)	P
11.3	Temperature rises, other than of windings, determined by thermocouples		N/A
	Temperature rises of windings determined by resistance method, unless	Motor winding must be measured in end use application for compliance	N/A
	the windings are non-uniform or it is difficult to make the necessary connections		N/A
11.4	Heating appliances operated under normal operation at 1.15 times rated power input (W) :	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
11.5	Motor-operated appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)	To be assessed in end appliance	N/A
11.6	Combined appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)	To be assessed in end appliance	N/A
11.7	Operation duration corresponding to the most unfavourable conditions of normal use	To be assessed in end appliance	N/A
11.8	Temperature rises monitored continuously and not exceeding the values in table 3	(see appended table) To be assessed in end appliance	N/A
	If the temperature rise of a motor winding exceeds the value of table 3, or	To be assessed in end appliance	N/A
	if there is doubt with regard to classification of insulation,	To be assessed in end appliance	N/A
	tests of Annex C are carried out	To be assessed in end appliance	N/A
	Sealing compound does not flow out	To be assessed in end appliance	N/A
	Protective devices do not operate, except	To be assessed in end appliance	N/A
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4	To be assessed in end appliance	N/A
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		N/A
13.1	Leakage current not excessive and electric strength adequate	To be assessed in end appliance	N/A
	Heating appliances operated at 1.15 times the rated power input (W)	To be assessed in end appliance	N/A
	Motor-operated appliances and combined appliances supplied at 1.06 times the rated voltage (V)	To be assessed in end appliance	N/A
	Protective impedance and radio interference filters disconnected before carrying out the tests	To be assessed in end appliance	N/A
13.2	For class 0, class II and class III appliances, and class II constructions, leakage current measured by means of the circuit described in figure 4 of IEC 60990	See 13.1	N/A
	For class 0I and class I appliances, a low impedance ammeter may be used	See 13.1	N/A
	Leakage current measurements	(see appended table) See 13.1	N/A
13.3	The appliance is disconnected from the supply	See 13.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength tests according to table 4..... :	(see appended table) See 13.1	N/A
	No breakdown during the tests	See 13.1	N/A
14	TRANSIENT OVERVOLTAGES		N/A
	Appliances withstand the transient over-voltages to which they may be subjected	See 13.1	N/A
	Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6..... :	(see appended table) See 13.1	N/A
	No flashover during the test, unless	See 13.1	N/A
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited	See 13.1	N/A
15	MOISTURE RESISTANCE		N/A
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance	To be assessed in end appliance	N/A
	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3	To be assessed in end appliance	N/A
	No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29	To be assessed in end appliance	N/A
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529..... :	See 15.1	N/A
	Water valves containing live parts in external hoses for connection of an appliance to the water mains tested as specified for IPX7 appliances	See 15.1	N/A
15.1.2	Hand-held appliance turned continuously through the most unfavourable positions during the test	See 15.1	N/A
	Built-in appliances installed according to the instructions	See 15.1	N/A
	Appliances placed or used on the floor or table placed on a horizontal unperforated support	See 15.1	N/A
	Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board	See 15.1	N/A
	For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube	See 15.1	N/A
	For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube, and	See 15.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	for appliances normally used on the floor or table, the movement is limited to two times 90° for a period of 5 min, the support being placed at the level of the pivot axis of the oscillating tube	See 15.1	N/A
	Wall-mounted appliances, take into account the distance to the floor stated in the instructions	See 15.1	N/A
	Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support, the pivot axis of the oscillating tube located at the level of the underside of the support, and	See 15.1	N/A
	for IPX4 appliances, the movement of the tube is limited to two times 90° from the vertical for a period of 5 min	See 15.1	N/A
	Appliances with type X attachment fitted with a flexible cord as described	See 15.1	N/A
	Detachable parts subjected to the relevant treatment with the main part	See 15.1	N/A
	However, if a part has to be removed for user maintenance and a tool is needed, this part is not removed	See 15.1	N/A
15.2	Spillage of liquid does not affect the electrical insulation	See 15.1	N/A
	Spillage solution comprising water containing approximately 1 % NaCl and 0,6 % rinsing agent	See 15.1	N/A
	Appliances with type X attachment fitted with a flexible cord as described	See 15.1	N/A
	Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable	See 15.1	N/A
	Detachable parts are removed	See 15.1	N/A
	Overfilling test with additional amount of the solution, over a period of 1 min (l) :	See 15.1	N/A
	The appliance withstands the electric strength test of 16.3	See 15.1	N/A
	No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29	See 15.1	N/A
15.3	Appliances proof against humid conditions	See 15.1	N/A
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78	See 15.1	N/A
	Detachable parts removed and subjected, if necessary, to the humidity test with the main part	See 15.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Humidity test for 48 h in a humidity cabinet	See 15.1	N/A
	Reassembly of those parts that may have been removed	See 15.1	N/A
	The appliance withstands the tests of clause 16	See 15.1	N/A
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		N/A
16.1	Leakage current not excessive and electric strength adequate	To be assessed in end appliance	N/A
	Protective impedance disconnected from live parts before carrying out the tests	To be assessed in end appliance	N/A
	Tests carried out at room temperature and not connected to the supply	To be assessed in end appliance	N/A
16.2	Single-phase appliances: test voltage 1.06 times rated voltage (V)	See 16.1	N/A
	Three-phase appliances: test voltage 1.06 times rated voltage divided by $\sqrt{3}$ (V)	See 16.1	N/A
	Leakage current measurements	(see appended table) See 16.1	N/A
	Limit values doubled if:		
	- all controls have an off position in all poles, or	See 16.1	N/A
	- the appliance has no control other than a thermal cut-out, or	See 16.1	N/A
	- all thermostats, temperature limiters and energy regulators do not have an off position, or	See 16.1	N/A
	- the appliance has radio interference filters	See 16.1	N/A
	With the radio interference filters disconnected, the leakage current do not exceed limits specified	(see appended table) See 16.1	N/A
16.3	Electric strength tests according to table 7	(see appended table) See 16.1	N/A
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified	(see appended table) See 16.1	N/A
	No breakdown during the tests	See 16.1	N/A
17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS		N/A
	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use	(see appended table) To be assessed in end appliance	N/A
	Appliance supplied with 1.06 or 0.94 times rated voltage under the most unfavourable short-circuit or overload likely to occur in normal use (V)	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Basic insulation is not short-circuited	To be assessed in end appliance	N/A
	Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K	To be assessed in end appliance	N/A
	Temperature of the winding not exceeding the value specified in table 8	To be assessed in end appliance	N/A
	However, limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1	To be assessed in end appliance	N/A
18	ENDURANCE		N/A
	Requirements and tests are specified in part 2 when necessary	To be assessed in end appliance	N/A
19	ABNORMAL OPERATION		P
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated	To be assessed in end appliance	N/A
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe	(see appended table) PECS detailed in the GPI section of this Report considered for fault conditions; additionally to be assessed in the end product	P
	Appliances incorporating heating elements subjected to the tests of 19.2 and 19.3, and	To be assessed in end product	N/A
	if the appliance also has a control that limit the temperature during clause 11 it is subjected to the test of 19.4, and	To be assessed in end product	N/A
	if applicable, to the test of 19.5	To be assessed in end product	N/A
	Appliances incorporating PTC heating elements are also subjected to the test of 19.6	To be assessed in end product	N/A
	Appliances incorporating motors subjected to the tests of 19.7 to 19.10, as applicable	Done with reference design but also to be assessed in end appliance	P
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable	See Table 19, Attachment 2, and Attachment 3 for details; also to be assessed in end appliance	P
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Appliances incorporating voltage selector switches subjected to the test of 19.15	To be assessed in end appliance	N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or	To be assessed in end appliance	N/A
	until steady conditions are established	To be assessed in end appliance	N/A
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample	To be assessed in end appliance	N/A
19.2	Test of appliances with heating elements with restricted heat dissipation; test voltage (V), power input of 0.85 times rated power input (W) :	To be assessed in end appliance	N/A
19.3	Test of 19.2 repeated; test voltage (V), power input of 1.24 times rated power input (W) :	To be assessed in end appliance	N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited	To be assessed in end appliance	N/A
19.5	Test of 19.4 repeated on Class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath	To be assessed in end appliance	N/A
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath	To be assessed in end appliance	N/A
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4	To be assessed in end appliance	N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions	To be assessed in end appliance	N/A
	The working voltage of the PTC heating element is increased by 5% and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1.5 times working voltage or until the PTC heating element ruptures (V)..... :	To be assessed in end appliance	N/A
19.7	Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque, or	Done with reference design but also to be assessed in end appliance	N/A
	locking moving parts of other appliances	To be assessed in end appliance	N/A
	Locked rotor, capacitors open-circuited one at a time	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Test repeated with capacitors short-circuited one at a time, unless	To be assessed in end appliance	N/A
	the capacitor is of class P2 of IEC 60252-1	To be assessed in end appliance	N/A
	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed	To be assessed in end appliance	N/A
	An electronic timer or programmer that operates to ensure compliance with the test before the maximum period under the conditions of Clause 11 is reached, is a protective electronic circuit	To be assessed in end appliance	N/A
	Other appliances supplied with rated voltage for a period as specified.....	To be assessed in end appliance	N/A
	Winding temperatures not exceeding values specified in table 8	(see appended table) To be assessed in end appliance	N/A
19.8	Multi-phase motors operated at rated voltage with one phase disconnected	See Table 19.7 below and Attachment 2; not traditional phase of three-phase AC mains but dropping a DC coil as shown; done with reference design but also to be assessed in end appliance	P
19.9	Running overload test on appliances incorporating motors intended to be remotely or automatically controlled or liable to be operated continuously	See Table 19.9 below and Attachment 2; done with reference design but also to be assessed in end appliance	P
	Motor-operated and combined appliances for which 30.2.3 is applicable and that use overload protective devices relying on electronic circuits to protect the motor windings, are also subjected to the test	See Table 19.9 below and Attachment 2; done with reference design but also to be assessed in end appliance	N/A
	Winding temperatures not exceeding values as specified.....	(see appended table) To be considered in end in end appliance	N/A
19.10	Series motor operated at 1.3 times rated voltage for 1 min (V)	To be assessed in end appliance	N/A
	During the test, parts not being ejected from the appliance	To be assessed in end appliance	N/A
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless	To be assessed in end appliance	N/A
	they comply with the conditions specified in 19.11.1	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless	No programmable components	N/A
	restarting does not result in a hazard	To be assessed in end appliance	N/A
	Appliances having a device with an off position obtained by electronic disconnection, or a device placing the appliance in a stand-by mode, subjected to the tests of 19.11.4	To be assessed in end appliance	N/A
	If the safety of the appliance under any of the fault conditions depends on the operation of a miniature fuse-link complying with IEC 60127, the test of 19.12 is carried out	To be assessed in end appliance	N/A
	During and after each test the following is checked:		N/A
	- the temperature of the windings do not exceed the values specified in table 8	To be assessed in end appliance	N/A
	- the appliance complies with the conditions specified in 19.13	To be assessed in end appliance	N/A
	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4	To be assessed in end appliance	N/A
	If a conductor of a printed board becomes open-circuited, the appliance is considered to have withstood the particular test, provided both of the following conditions are met:		N/A
	- the base material of the printed circuit board withstands the test of Annex E	To be assessed in end appliance	N/A
	- any loosened conductor does not reduce clearance or creepage distances between live parts and accessible metal parts below the values specified in clause 29	To be assessed in end appliance	N/A
19.11.1	Fault conditions a) to g) in 19.11.2 are not applied to circuits or parts of circuits meeting both of the following conditions:		N/A
	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15 W according to the tests specified	To be assessed in end appliance	N/A
	- the protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction of other parts of the appliance does not rely on the correct functioning of the electronic circuit	To be assessed in end appliance	N/A
19.11.2	Fault conditions applied one at a time, the appliance operating under conditions specified in clause 11, but supplied at rated voltage, duration of the tests as specified:		N/A
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	b) open circuit at the terminals of any component	To be assessed in end appliance	N/A
	c) short circuit of capacitors, unless	To be assessed in end appliance	N/A
	they comply with IEC 60384-14	To be assessed in end appliance	N/A
	d) short circuit of any two terminals of an electronic component, other than integrated circuits	To be assessed in end appliance	N/A
	This fault condition is not applied between the two circuits of an optocoupler	To be assessed in end appliance	N/A
	e) failure of triacs in the diode mode	To be assessed in end appliance	N/A
	f) failure of microprocessors and integrated circuits	To be assessed in end appliance	N/A
	g) failure of an electronic power switching device	To be assessed in end appliance	N/A
	Each low power circuit is short-circuited by connecting the low-power point to the pole of the supply source from which the measurements were made	To be assessed in end appliance	N/A
19.11.3	If the appliance incorporates a protective electronic circuit which operates to ensure compliance with clause 19, the relevant test is repeated with a single fault simulated, as indicated in a) to g) of 19.11.2	All pins of IC were shorted to adjacent pins in the IC; each pin was opened; and logic pins were shorted to ground (low) and high. See single fault testing of Attachment 3; also to be assessed in the end appliance	P
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or	To be assessed in end appliance	N/A
	a device that can be placed in the stand-by mode,	To be assessed in end appliance	N/A
	subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode	To be assessed in end appliance	N/A
	Appliances incorporating a protective electronic circuit subjected to the tests of 19.11.4.1 to 19.11.4.7, the tests being carried out after the protective electronic circuit has operated, except that	To be assessed in end appliance	N/A
	appliances operated for 30 s or 5 min during the test of 19.7 are not subjected to the tests for electromagnetic phenomena.	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Surge protective devices disconnected, unless	To be assessed in end appliance	N/A
	They incorporate spark gaps	To be assessed in end appliance	N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4	To be assessed in end appliance	N/A
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3	To be assessed in end appliance	N/A
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified	To be assessed in end appliance	N/A
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified	To be assessed in end appliance	N/A
	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode	To be assessed in end appliance	N/A
	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling	To be assessed in end appliance	N/A
	Earthed heating elements in class I appliances disconnected	To be assessed in end appliance	N/A
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3	To be assessed in end appliance	N/A
19.11.4.6	Appliances having a rated current not exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-11	To be assessed in end appliance	N/A
	Appliances having a rated current exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-34	To be assessed in end appliance	N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2	To be assessed in end appliance	N/A
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation. After 60s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate	To be assessed in end appliance	N/A
	The appliance continues to operate normally, or	To be assessed in end appliance	N/A
	requires a manual operation to restart	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
19.12	If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated, measuring the current flowing through the fuse-link; measured current (A); rated current of the fuse-link (A)	To be assessed in end appliance	N/A
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts	To be assessed in end appliance	N/A
	Temperature rises not exceeding the values shown in table 9	(see appended table) To be assessed in end appliance	N/A
	Compliance with clause 8 not impaired	To be assessed in end appliance	N/A
	If the appliance can still be operated it complies with 20.2	To be assessed in end appliance	N/A
	Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4:		N/A
	- basic insulation (V)	To be assessed in end appliance	N/A
	- supplementary insulation (V)	To be assessed in end appliance	N/A
	- reinforced insulation (V)	To be assessed in end appliance	N/A
	After operation or interruption of a control, clearances and creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage	To be assessed in end appliance	N/A
	The appliance does not undergo a dangerous malfunction, and	To be assessed in end appliance	N/A
	no failure of protective electronic circuits, if the appliance is still operable	To be assessed in end appliance	N/A
	Appliances tested with an electronic switch in the off position, or in the stand-by mode:		N/A
	- do not become operational, or	To be assessed in end appliance	N/A
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4	To be assessed in end appliance	N/A
	If the appliance contains lids or doors that are controlled by one or more interlocks, one of the interlocks may be released provided that:		N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- the lid or door does not move automatically to an open position when the interlock is released, and	To be assessed in end appliance	N/A
	- the appliance does not start after the cycle in which the interlock was released	To be assessed in end appliance	N/A
19.14	Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being short-circuited	To be assessed in end appliance	N/A
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time	To be assessed in end appliance	N/A
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited	To be assessed in end appliance	N/A
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn	To be assessed in end appliance	N/A
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied	To be assessed in end appliance	N/A
20	STABILITY AND MECHANICAL HAZARDS		N/A
20.1	Appliances having adequate stability	To be assessed in end appliance	N/A
	Tilting test through an angle of 10°, appliance placed on an inclined plane/horizontal support, not connected to the supply mains; appliance does not overturn	To be assessed in end appliance	N/A
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°	To be assessed in end appliance	N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9	To be assessed in end appliance	N/A
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury	See 20.1	N/A
	Protective enclosures, guards and similar parts are non-detachable, and	See 20.1	N/A
	have adequate mechanical strength	See 20.1	N/A
	Enclosures that can be opened by overriding an interlock are considered to be detachable parts	See 20.1	N/A
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard by unexpected closure	See 20.1	N/A
	Not possible to touch dangerous moving parts with the test probe described	See 20.1	N/A
21	MECHANICAL STRENGTH		N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling	To be assessed in end appliance	N/A
	Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J	(see appended table) To be assessed in end appliance	N/A
	The appliance shows no damage impairing compliance with this standard, and	To be assessed in end appliance	N/A
	compliance with 8.1, 15.1 and clause 29 not impaired	To be assessed in end appliance	N/A
	If doubt, supplementary or reinforced insulation subjected to the electric strength test of 16.3	To be assessed in end appliance	N/A
	If necessary, repetition of groups of three blows on a new sample	To be assessed in end appliance	N/A
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements	To be assessed in end appliance	N/A
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm	To be assessed in end appliance	N/A
	The insulation is tested as specified, and does withstand the electric strength test of 16.3	To be assessed in end appliance	N/A
22	CONSTRUCTION		N/A
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	To be assessed in end appliance	N/A
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		N/A
	- a supply cord fitted with a plug, or	See 22.1	N/A
	- a switch complying with 24.3, or	See 22.1	N/A
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or	See 22.1	N/A
	- an appliance inlet	See 22.1	N/A
	Single-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase, permanently connected class 01 and class I appliances, connected to the phase conductor	See 22.1	N/A
22.3	Appliance provided with pins: no undue strain on socket-outlets	See 22.1	N/A
	Applied torque not exceeding 0.25 Nm	See 22.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Pull force of 50N to each pin after the appliance has been placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1mm	See 22.1	N/A
	Each pin subjected to a torque of 0.4Nm; the pins are not rotating, unless	See 22.1	N/A
	rotating does not impair compliance with this standard	See 22.1	N/A
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets	See 22.1	N/A
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance equal to or greater than 0,1 μ F, the appliance being disconnected from the supply at the instant of voltage peak	See 22.1	N/A
	Voltage not exceeding 34 V (V)..... :	See 22.1	N/A
	If compliance relies on the operation of an electronic circuit, the electromagnetic phenomena tests of 19.11.4.3 and 19.11.4.4 are applied	See 22.1	N/A
	The discharge test is then repeated three times, voltage not exceeding 34 V (V)..... :	See 22.1	N/A
22.6	Electrical insulation not affected by condensing water or leaking liquid	See 22.1	N/A
	Electrical insulation of Class II appliances not affected if a hose ruptures or seal leaks	See 22.1	N/A
	In case of doubt, test as described	See 22.1	N/A
22.7	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices	See 22.1	N/A
22.8	Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use	See 22.1	N/A
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless	See 22.1	N/A
	the substance has adequate insulating properties	See 22.1	N/A
22.10	Not possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance, if:	See 22.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- a non-self-resetting thermal cut-out is required by the standard, and	See 22.1	N/A
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it	See 22.1	N/A
	Non-self-resetting thermal motor protectors have a trip-free action, unless	See 22.1	N/A
	they are voltage maintained	See 22.1	N/A
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely	See 22.1	N/A
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts	See 22.1	N/A
	Obvious locked position of snap-in devices used for fixing such parts	See 22.1	N/A
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing	See 22.1	N/A
	Tests as described	See 22.1	N/A
22.12	Handles, knobs etc. fixed in a reliable manner	See 22.1	N/A
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible	See 22.1	N/A
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied	See 22.1	N/A
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied	See 22.1	N/A
22.13	Unlikely that handles, when gripped as in normal use, make the operator's hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only	See 22.1	N/A
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance	See 22.1	N/A
	No exposed pointed ends of self-tapping screws or other fasteners, likely to be touched by the user in normal use or during user maintenance	See 22.1	N/A
22.15	Storage hooks and the like for flexible cords smooth and well rounded	See 22.1	N/A
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands and no undue wear of contacts	See 22.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Cord reel tested with 6000 operations, as specified	See 22.1	N/A
	Electric strength test of 16.3, voltage of 1000 V applied	See 22.1	N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner	See 22.1	N/A
22.18	Current-carrying parts and other metal parts resistant to corrosion	See 22.1	N/A
22.19	Driving belts not relied upon to provide the required level of insulation, unless	See 22.1	N/A
	constructed to prevent inappropriate replacement	See 22.1	N/A
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless	See 22.1	N/A
	material used is non-corrosive, non-hygroscopic and non-combustible	See 22.1	N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless	See 22.1	N/A
	impregnated	See 22.1	N/A
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements	See 22.1	N/A
22.22	Appliances not containing asbestos	See 22.1	N/A
22.23	Oils containing polychlorinated biphenyl (PCB) not used	See 22.1	N/A
22.24	Bare heating elements, except in class III appliances or class III constructions that do not contain live parts, adequately supported	See 22.1	N/A
	In case of rupture, the heating conductor is unlikely to come in contact with accessible metal parts	See 22.1	N/A
22.25	Sagging heating conductors, except in class III appliances or class III constructions that do not contain live parts, cannot come into contact with accessible metal parts	See 22.1	N/A
22.26	For class III constructions the insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation	See 22.1	N/A
22.27	Parts connected by protective impedance separated by double or reinforced insulation	See 22.1	N/A
22.28	Metal parts of Class II appliances conductively connected to gas pipes or in contact with water, separated from live parts by double or reinforced insulation	See 22.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
22.29	Class II appliances permanently connected to fixed wiring so constructed that the required degree of access to live parts is maintained after installation	See 22.1	N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or	See 22.1	N/A
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete	See 22.1	N/A
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear	See 22.1	N/A
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose	See 22.1	N/A
22.32	Supplementary and reinforced insulation constructed or protected against pollution so that clearances or creepage distances are not reduced below the values in clause 29	See 22.1	N/A
	Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2	See 22.1	N/A
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation	See 22.1	N/A
	Ceramic and similar porous material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation	See 22.1	N/A
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature	See 22.1	N/A
22.33	Conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts, or	See 22.1	N/A
	unearthed metal parts separated from live parts by basic insulation only	See 22.1	N/A
	Electrodes not used for heating liquids	See 22.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	For class II constructions, conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts, not in direct contact with basic or reinforced insulation, unless	See 22.1	N/A
	the reinforced insulation consists of at least 3 layers	See 22.1	N/A
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless	See 22.1	N/A
	the reinforced insulation consists of at least 3 layers	See 22.1	N/A
	An air layer not used as basic or supplementary insulation in a double insulation system if likely to be bridged by leaking liquid	See 22.1	N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless	See 22.1	N/A
	the shaft is not accessible when the part is removed	See 22.1	N/A
22.35	For other than class III constructions, handles, levers and knobs, held or actuated in normal use, not becoming live in the event of a failure of basic insulation	See 22.1	N/A
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of a failure of basic insulation, are either adequately covered by insulation material or their accessible parts are separated from their shafts or fixings by supplementary insulation	See 22.1	N/A
	This requirement does not apply to handles, levers and knobs on stationary appliances and cordless appliances, other than those of electrical components, provided they are reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal	See 22.1	N/A
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation	See 22.1	N/A
22.36	For appliances other than class III, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless	See 22.1	N/A
	they are separated from live parts by double or reinforced insulation	See 22.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
22.37	Capacitors in Class II appliances not connected to accessible metal parts and their casings, if of metal, separated from accessible metal parts by supplementary insulation, unless	See 22.1	N/A
	the capacitors comply with 22.42	See 22.1	N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out	See 22.1	N/A
22.39	Lamp holders used only for the connection of lamps	See 22.1	N/A
22.40	Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts, fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible	See 22.1	N/A
	If the appliance cannot operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation being fitted with a switch for stopping the operation. The actuating member of the switch being easily visible and accessible	See 22.1	N/A
22.41	No components, other than lamps, containing mercury	See 22.1	N/A
22.42	Protective impedance consisting of at least two separate components	See 22.1	N/A
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited	See 22.1	N/A
	Resistors checked by the test of 14.1 a) in IEC 60065	See 22.1	N/A
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14	See 22.1	N/A
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur	See 22.1	N/A
22.44	Appliances not having an enclosure that is shaped or decorated like a toy	See 22.1	N/A
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure	See 22.1	N/A
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1	See 22.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards	See 22.1	N/A
	These requirements are not applicable to software used for functional purpose or compliance with clause 11	See 22.1	N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use	See 22.1	N/A
	No leakage from any part, including any inlet water hose	See 22.1	N/A
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water	See 22.1	N/A
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless	See 22.1	N/A
	the appliance switches off automatically or can operate continuously without hazard	See 22.1	N/A
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation	See 22.1	N/A
22.51	There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode	See 22.1	N/A
	There is a visual indication showing that the appliance is adjusted for remote operation	See 22.1	N/A
	These requirements not necessary on appliances that can operate as follows, without giving rise to a hazard:		N/A
	- continuously, or	See 22.1	N/A
	- automatically, or	See 22.1	N/A
	- remotely	See 22.1	N/A
22.52	Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is sold	See 22.1	N/A
22.53	Class II appliances and class III appliances that incorporate functionally earthed parts have at least double insulation or reinforced insulation between live parts and the functionally earthed parts	See 22.1	N/A
22.54	Button cells and batteries designated R1 not accessible without the aid of a tool, unless	See 22.1	N/A
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously	See 22.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
23	INTERNAL WIRING		N/A
23.1	Wireways smooth and free from sharp edges	To be assessed in end appliance	N/A
	Wires protected against contact with burrs, cooling fins etc.	To be assessed in end appliance	N/A
	Wire holes in metal well-rounded or provided with bushings	To be assessed in end appliance	N/A
	Wiring effectively prevented from coming into contact with moving parts	To be assessed in end appliance	N/A
23.2	Beads etc. on live wires cannot change their position, and are not resting on sharp edges	See 23.1	N/A
	Beads inside flexible metal conduits contained within an insulating sleeve	See 23.1	N/A
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress	See 23.1	N/A
	Flexible metallic tubes not causing damage to insulation of conductors	See 23.1	N/A
	Open-coil springs not used	See 23.1	N/A
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another	See 23.1	N/A
	No damage after 10 000 flexings for conductors flexed during normal use, or	See 23.1	N/A
	100 flexings for conductors flexed during user maintenance	See 23.1	N/A
	Electric strength test of 16.3, 1000 V between live parts and accessible metal parts	See 23.1	N/A
	Not more than 10% of the strands of any conductor broken, and	See 23.1	N/A
	not more than 30% for wiring supplying circuits that consume no more than 15W	See 23.1	N/A
23.4	Bare internal wiring sufficiently rigid and fixed	See 23.1	N/A
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use	See 23.1	N/A
	Basic insulation electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245, or	See 23.1	N/A
	no breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation	See 23.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	For class II construction, the requirements for supplementary insulation and reinforced insulation apply,	See 23.1	N/A
	except that the sheath of a cord complying with IEC 60227 or IEC 60245 may provide supplementary insulation.	See 23.1	N/A
	A single layer of internal wiring insulation does not provide reinforced insulation	See 23.1	N/A
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or	See 23.1	N/A
	be such that it can only be removed by breaking or cutting	See 23.1	N/A
23.7	The colour combination green/yellow only used for earthing conductors	See 23.1	N/A
23.8	Aluminium wires not used for internal wiring	See 23.1	N/A
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless	See 23.1	N/A
	the contact pressure is provided by spring terminals	See 23.1	N/A
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52)	See 23.1	N/A
24	COMPONENTS		P
24.1	Components comply with safety requirements in relevant IEC standards	To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
	List of components..... :	(see appended table)	P
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance	To be assessed in end appliance	N/A
	Relays tested as part of the appliance, or	To be assessed in end appliance	N/A
	alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1	To be assessed in end appliance	N/A
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard		N/A
	30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections	To be assessed in end appliance	N/A
	Components that have not been previously tested to comply with the IEC standard for the relevant component are tested according to the requirements of 30.2	To be assessed in end appliance	N/A
	Components that have been previously tested to comply with the resistance to fire requirements in the IEC standard for the relevant component need not be retested provided the specified conditions are met	To be assessed in end appliance	N/A
	If these conditions are not satisfied, the component is tested as part of the appliance.	To be assessed in end appliance	N/A
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance	To be assessed in end appliance	N/A
	If components have not been tested and found to comply with relevant IEC standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9	To be assessed in end appliance	N/A
	For components mentioned in 24.1.1 to 24.1.9 no additional tests specified in the relevant component standard are necessary other than those specified in 24.1.1 to 24.1.9	To be assessed in end appliance	N/A
	Components not tested and found to comply with relevant IEC standard and components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance	To be assessed in end appliance	N/A
	Lampholders and starterholders that have not being tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally according to the gauging and interchangeability requirements of the relevant IEC standard	To be assessed in end appliance	N/A
	No additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of IEC 60320-1 and IEC 60309	To be assessed in end appliance	N/A

IEC 60335-1				
Clause	Requirement + Test		Result - Remark	Verdict
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, comply with IEC 60384-14		To be assessed in end appliance	N/A
	If the capacitors have to be tested, they are tested according to Annex F		To be assessed in end appliance	N/A
24.1.2	Transformers in associated switch mode power supplies comply with Annex BB of IEC 61558-2-16		To be assessed in end appliance	N/A
	Safety isolating transformers comply with IEC 61558-2-6		To be assessed in end appliance	N/A
	If they have to be tested, they are tested according to Annex G		To be assessed in end appliance	N/A
24.1.3	Switches comply with IEC 61058-1, the number of cycles of operation being at least 10 000		To be assessed in end appliance	N/A
	If they have to be tested, they are tested according to Annex H		To be assessed in end appliance	N/A
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		To be assessed in end appliance	N/A
	If the switch only operates a motor starting relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested		To be assessed in end appliance	N/A
24.1.4	Automatic controls comply with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least:			P
	- thermostats:	10 000	To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
	- temperature limiters:	1 000	To be assessed in end appliance	N/A
	- self-resetting thermal cut-outs:	300	To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
	- voltage maintained non-self-resetting thermal cut-outs:	1 000	To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A

IEC 60335-1				
Clause	Requirement + Test	Result - Remark	Verdict	
	- other non-self-resetting thermal cut-outs:	30	To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
	- timers:	3 000	To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
	- energy regulators:	10 000	To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
	The number of cycles for controls operating during clause 11 need not be declared, if the appliance meets the requirements of this standard when they are short-circuited		To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
	Thermal motor protectors are tested in combination with their motor under the conditions specified in Annex D		To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
	For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7		To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
	Thermal cut-outs of the capillary type comply with the requirements for type 2.K controls in IEC 60730-2-9		To be assessed in end appliance ; only certain applicable requirements of IEC 60730-1 were considered (See Attachment 4)	N/A
24.1.5	Appliance couplers comply with IEC 60320-1		To be assessed in end appliance	N/A
	However, for class II appliances classified higher than IPX0, the appliance couplers comply with IEC 60320-2-3		To be assessed in end appliance	N/A
	Interconnection couplers comply with IEC 60320-2-2		To be assessed in end appliance	N/A
24.1.6	Small lamp holders similar to E10 lampholders comply with IEC 60238, the requirements for E10 lampholders being applicable		To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151	To be assessed in end appliance	N/A
24.1.8	The relevant standard for thermal links is IEC 60691	To be assessed in end appliance	N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of Clause 19	To be assessed in end appliance	N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance	To be assessed in end appliance	N/A
	They are also tested in accordance with Clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance	To be assessed in end appliance	N/A
24.2	Appliances not fitted with:		N/A
	- switches or automatic controls in flexible cords	To be assessed in end appliance	N/A
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance	To be assessed in end appliance	N/A
	- thermal cut-outs that can be reset by soldering, unless	To be assessed in end appliance	N/A
	the solder has a melting point of at least 230 °C	To be assessed in end appliance	N/A
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and have a contact separation in all poles, providing full disconnection under overvoltage category III conditions	To be assessed in end appliance	N/A
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1	To be assessed in end appliance	N/A
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly	To be assessed in end appliance	N/A
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V	To be assessed in end appliance	N/A
	In addition, the motors comply with the requirements of Annex I	To be assessed in end appliance	N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770	To be assessed in end appliance	N/A
	They are supplied with the appliance	To be assessed in end appliance	N/A
	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set	To be assessed in end appliance	N/A
24.8	Motor running capacitors in appliances for which 30.2.3 is applicable and that are permanently connected in series with a motor winding, not causing a hazard in event of a failure	To be assessed in end appliance	N/A
	One or more of the following conditions are to be met:		N/A
	- the capacitors are of class P2 according to IEC 60252-1	To be assessed in end appliance	N/A
	- the capacitors are housed within a metallic or ceramic enclosure	To be assessed in end appliance	N/A
	- the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm	To be assessed in end appliance	N/A
	- adjacent non-metallic parts within 50 mm withstand the needle-flame test of Annex E	To be assessed in end appliance	N/A
	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695-11-10	To be assessed in end appliance	N/A
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		N/A
25.1	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:		N/A
	- supply cord fitted with a plug, the current rating and voltage rating of the plug being not less than the corresponding ratings of its associated appliance	To be assessed in end appliance	N/A
	- an appliance inlet having at least the same degree of protection against moisture as required for the appliance, or	To be assessed in end appliance	N/A
	- pins for insertion into socket-outlets	To be assessed in end appliance	N/A
25.2	Appliance not provided with more than one means of connection to the supply mains	See 25.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown	See 25.1	N/A
25.3	Appliance intended to be permanently connected to fixed wiring provided with one of the following means for connection to the supply mains:		N/A
	- a set of terminals allowing the connection of a flexible cord	See 25.1	N/A
	- a fitted supply cord	See 25.1	N/A
	- a set of supply leads accommodated in a suitable compartment	See 25.1	N/A
	- a set of terminals for the connection of cables of fixed wiring, cross-sectional areas specified in 26.6, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support	See 25.1	N/A
	- a set of terminals and cable entries, conduit entries, knock-outs or glands, allowing connection of appropriate types of cable or conduit, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support	See 25.1	N/A
	For a fixed appliance constructed so that parts can be removed to facilitate easy installation, this requirement is met if it is possible to connect the fixed wiring without difficulty after a part of the appliance has been fixed to its support	See 25.1	N/A
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to table 10 (mm) :	See 25.1	N/A
	Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in clause 29	See 25.1	N/A
25.5	Method for assembling the supply cord to the appliance:		N/A
	- type X attachment	See 25.1	N/A
	- type Y attachment	See 25.1	N/A
	- type Z attachment, if allowed in relevant part 2	See 25.1	N/A
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords	See 25.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	For multi-phase appliances supplied with a supply cord and that are intended to be permanently connected to fixed wiring, the supply cord is assembled to the appliance by type Y attachment	See 25.1	N/A
25.6	Plugs fitted with only one flexible cord	See 25.1	N/A
25.7	Supply cords, other than for class III appliances, being one of the following types:		N/A
	- rubber sheathed (at least 60245 IEC 53)	See 25.1	N/A
	- polychloroprene sheathed (at least 60245 IEC 57)	See 25.1	N/A
	- polyvinyl chloride sheathed. Not used if they are likely to touch metal parts having a temperature rise exceeding 75 K during the test of clause 11		N/A
	<ul style="list-style-type: none"> light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg 	See 25.1	N/A
	<ul style="list-style-type: none"> ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances 	See 25.1	N/A
	- heat resistant polyvinyl chloride sheathed. Not used for type X attachment other than specially prepared cords		N/A
	<ul style="list-style-type: none"> heat-resistant light polyvinyl chloride sheathed cord (60227 IEC 56), for appliances not exceeding 3 kg 	See 25.1	N/A
	<ul style="list-style-type: none"> heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), for other appliances 	See 25.1	N/A
	Supply cords for class III appliances adequately insulated	See 25.1	N/A
	Test with 500 V for 2 min for supply cords of class III appliances that contain live parts	See 25.1	N/A
25.8	Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm ²)..... :	See 25.1	N/A
25.9	Supply cords not in contact with sharp points or edges	See 25.1	N/A
25.10	Supply cord of class I appliances have a green/yellow core for earthing	See 25.1	N/A
	In multi-phase appliances, the colour of the neutral conductor of the supply cord is blue.	See 25.1	N/A
25.11	Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless	See 25.1	N/A
	the contact pressure is provided by spring terminals	See 25.1	N/A
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure	See 25.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
25.13	Inlet openings so constructed as to prevent damage to the supply cord	See 25.1	N/A
	If it is not evident that the supply cord can be introduced without risk of damage, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided	See 25.1	N/A
	If unsheathed supply cord, a similar additional bushing or lining is required, unless the appliance is	See 25.1	N/A
	class 0, or	See 25.1	N/A
	a class III appliance not containing live parts	See 25.1	N/A
25.14	Supply cords moved while in operation adequately protected against excessive flexing	See 25.1	N/A
	Flexing test, as described:		N/A
	- applied force (N)..... :	See 25.1	N/A
	- number of flexings :	See 25.1	N/A
	The test does not result in:		N/A
	- short-circuit between the conductors, such that the current exceeds a value of twice the rated current	See 25.1	N/A
	- breakage of more than 10% of the strands of any conductor	See 25.1	N/A
	- separation of the conductor from its terminal	See 25.1	N/A
	- loosening of any cord guard	See 25.1	N/A
	- damage to the cord or the cord guard	See 25.1	N/A
	- broken strands piercing the insulation and becoming accessible	See 25.1	N/A
25.15	For appliances with supply cord and appliances to be permanently connected to fixed wiring by a flexible cord, conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage	See 25.1	N/A
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged	See 25.1	N/A
	Pull and torque test of supply cord:		N/A
	- fixed appliances: pull 100 N; torque (not on automatic cord reel) (Nm)..... :	See 25.1	N/A
	- other appliances: values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm)..... :	See 25.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Cord not damaged and max. 2 mm displacement of the cord	See 25.1	N/A
25.16	Cord anchorages for type X attachments constructed and located so that:		N/A
	- replacement of the cord is easily possible	See 25.1	N/A
	- it is clear how the relief from strain and the prevention of twisting are obtained	See 25.1	N/A
	- they are suitable for different types of supply cord	See 25.1	N/A
	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless	See 25.1	N/A
	they are separated from accessible metal parts by supplementary insulation	See 25.1	N/A
	- the cord is not clamped by a metal screw which bears directly on the cord	See 25.1	N/A
	- at least one part of the cord anchorage securely fixed to the appliance, unless	See 25.1	N/A
	it is part of a specially prepared cord	See 25.1	N/A
	- screws which have to be operated when replacing the cord do not fix any other component, unless	See 25.1	N/A
	the appliance becomes inoperative or incomplete or the parts cannot be removed without a tool	See 25.1	N/A
	- if labyrinths can be bypassed the test of 25.15 is nevertheless withstood	See 25.1	N/A
	- for class 0, 0I and I appliances they are of insulating material or are provided with an insulating lining, unless	See 25.1	N/A
	failure of the insulation of the cord does not make accessible metal parts live	See 25.1	N/A
	- for class II appliances they are of insulating material, or	See 25.1	N/A
	if of metal, they are insulated from accessible metal parts by supplementary insulation	See 25.1	N/A
	After the test of 25.15, under the conditions specified, the conductors have not moved by more than 1 mm in the terminals	See 25.1	N/A
25.17	Adequate cord anchorages for type Y and Z attachment, test with the cord supplied with the appliance	See 25.1	N/A
25.18	Cord anchorages only accessible with the aid of a tool, or	See 25.1	N/A
	Constructed so that the cord can only be fitted with the aid of a tool	See 25.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
25.19	Type X attachment, glands not used as cord anchorage in portable appliances	See 25.1	N/A
	Tying the cord into a knot or tying the cord with string not used	See 25.1	N/A
25.20	The conductors of the supply cord for type Y and Z attachment insulated from accessible metal parts	See 25.1	N/A
25.21	Space for supply cord for type X attachment or for connection of fixed wiring constructed:		N/A
	- to permit checking of conductors with respect to correct positioning and connection before fitting any cover	See 25.1	N/A
	- so there is no risk of damage to the conductors or their insulation when fitting the cover	See 25.1	N/A
	- for portable appliances, so that the uninsulated end of a conductor, if it becomes free from the terminal, prevented from contact with accessible metal parts	See 25.1	N/A
	2 N test to the conductor for portable appliances; no contact with accessible metal parts	See 25.1	N/A
25.22	Appliance inlets:		N/A
	- live parts not accessible during insertion or removal	See 25.1	N/A
	Requirement not applicable to appliance inlets complying with IEC 60320-1	See 25.1	N/A
	- connector can be inserted without difficulty	See 25.1	N/A
	- the appliance is not supported by the connector	See 25.1	N/A
	- not for cold conditions if temp. rise of external metal parts exceeds 75 K during clause 11, unless	See 25.1	N/A
	the supply cord is unlikely to touch such metal parts	See 25.1	N/A
25.23	Interconnection cords comply with the requirements for the supply cord, except that:	See 25.1	N/A
	- the cross-sectional area of the conductors is determined on the basis of the maximum current during clause 11	See 25.1	N/A
	- the thickness of the insulation may be reduced	See 25.1	N/A
	If necessary, electric strength test of 16.3	See 25.1	N/A
25.24	Interconnection cords not detachable without the aid of a tool if compliance with this standard is impaired when they are disconnected	See 25.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
25.25	Dimensions of pins that are inserted into socket-outlets compatible with the dimensions of the relevant socket-outlet.	See 25.1	N/A
	Dimensions of pins and engagement face in accordance with the dimensions of the relevant plug in IEC/TR 60083	See 25.1	N/A
26	TERMINALS FOR EXTERNAL CONDUCTORS		N/A
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors	To be assessed in end appliance	N/A
	Terminals only accessible after removal of a non-detachable cover, except	To be assessed in end appliance	N/A
	for class III appliances that do not contain live parts	To be assessed in end appliance	N/A
	Earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection	To be assessed in end appliance	N/A
26.2	Appliances with type X attachment and appliances for the connection of cables to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless	See 26.1	N/A
	the connections are soldered	See 26.1	N/A
	Screws and nuts not used to fix any other component, except	See 26.1	N/A
	internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors	See 26.1	N/A
	If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone, unless	See 26.1	N/A
	barriers provided so that neither clearances nor creepage distances between live parts and other metal parts reduced below the values for supplementary insulation if the conductor becomes free at the soldered joint	See 26.1	N/A
26.3	Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor	See 26.1	N/A
	Terminals fixed so that when the clamping means is tightened or loosened:		N/A
	- the terminal does not become loose	See 26.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- internal wiring is not subjected to stress	See 26.1	N/A
	- neither clearances nor creepage distances are reduced below the values in clause 29	See 26.1	N/A
	Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified (Nm)..... :	See 26.1	N/A
	No deep or sharp indentations of the conductors	See 26.1	N/A
26.4	Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, eyelets or similar, and	See 26.1	N/A
	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened	See 26.1	N/A
26.5	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard	See 26.1	N/A
	Stranded conductor test, 8 mm insulation removed	See 26.1	N/A
	No contact between live parts and accessible metal parts and,	See 26.1	N/A
	for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only	See 26.1	N/A
26.6	Terminals for type X attachment and for connection of cables of fixed wiring suitable for connection of conductors with cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm ²)..... :	See 26.1	N/A
	If a specially prepared cord is used, terminals need only be suitable for that cord	See 26.1	N/A
26.7	Terminals for type X attachment, except in class III appliances not containing live parts, accessible after removal of a cover or part of the enclosure	See 26.1	N/A
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, located close to each other	See 26.1	N/A
26.9	Terminals of the pillar type constructed and located as specified	See 26.1	N/A
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless	See 26.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	conductors ends fitted with means suitable for screw terminals	See 26.1	N/A
	Pull test of 5 N to the connection	See 26.1	N/A
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used	See 26.1	N/A
	For Class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone	See 26.1	N/A
	If soldering, welding or crimping alone used, barriers provided so that clearances and creepage distances between live parts and other metal parts are not reduced below the values for supplementary insulation if the conductor becomes free	See 26.1	N/A
27	PROVISION FOR EARTHING		N/A
27.1	Accessible metal parts of Class 0I and I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet	To be assessed in end appliance	N/A
	Earthing terminals and earthing contacts not connected to the neutral terminal	To be assessed in end appliance	N/A
	Class 0, II and III appliances have no provision for protective earthing	To be assessed in end appliance	N/A
	Class II appliances and class III appliances can incorporate an earth for functional purposes	To be assessed in end appliance	N/A
	Safety extra-low voltage circuits not earthed, unless	To be assessed in end appliance	N/A
	protective extra-low voltage circuits	To be assessed in end appliance	N/A
27.2	Clamping means of earthing terminals adequately secured against accidental loosening	See 27.1	N/A
	Terminals for the connection of external equipotential bonding conductors allow connection of conductors of 2.5 to 6 mm ² , and	See 27.1	N/A
	- do not provide earthing continuity between different parts of the appliance, and	See 27.1	N/A
	- conductors cannot be loosened without the aid of a tool	See 27.1	N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes	See 27.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
27.3	For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the part		N/A
	For appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage	See 27.1	N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes	See 27.1	N/A
27.4	No risk of corrosion resulting from contact between parts of the earthing terminal and the copper of the earthing conductor or other metal	See 27.1	N/A
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion	See 27.1	N/A
	If of steel, these parts provided with an electroplated coating with a thickness at least 5 μm	See 27.1	N/A
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure	See 27.1	N/A
	In the body of the earthing terminal is a part of a frame or enclosure of aluminium or aluminium alloys, precautions taken to avoid risk of corrosion	See 27.1	N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes	See 27.1	N/A
27.5	Low resistance of connection between earthing terminal and earthed metal parts	See 27.1	N/A
	This requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit, provided the clearances of basic insulation are based on the rated voltage of the appliance	See 27.1	N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes	See 27.1	N/A
	Resistance not exceeding 0,1 Ω at the specified low-resistance test (Ω)	See 27.1	N/A
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand-held appliances.	See 27.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	They may be used to provide earthing continuity in other appliances if at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit	See 27.1	N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes	See 27.1	N/A
28	SCREWS AND CONNECTIONS		N/A
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses	To be assessed in end appliance	N/A
	Screws not of soft metal liable to creep, such as zinc or aluminium	To be assessed in end appliance	N/A
	Diameter of screws of insulating material min. 3 mm	To be assessed in end appliance	N/A
	Screws of insulating material not used for any electrical connections or connections providing earthing continuity	To be assessed in end appliance	N/A
	Screws used for electrical connections or connections providing earthing continuity screwed into metal	To be assessed in end appliance	N/A
	Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation	To be assessed in end appliance	N/A
	For type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw impairs basic insulation	To be assessed in end appliance	N/A
	For screws and nuts; torque-test as specified in table 14..... :	(see appended table) To be assessed in end appliance	N/A
28.2	Electrical connections and connections providing earthing continuity constructed so that contact pressure is not transmitted through non-ceramic insulating material liable to shrink or distort, unless	See 28.1	N/A
	there is resiliency in the metallic parts to compensate for shrinkage or distortion of the insulating material	See 28.1	N/A
	This requirement does not apply to electrical connections in circuits of appliances for which:		N/A
	<ul style="list-style-type: none"> 30.2.2 is applicable and that carry a current not exceeding 0,5 A 	See 28.1	N/A
	<ul style="list-style-type: none"> 30.2.3 is applicable and that carry a current not exceeding 0,2 A 	See 28.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
28.3	Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together	See 28.1	N/A
	Thread-cutting (self-tapping) screws and thread rolling screws only used for electrical connections if they generate a full form standard machine screw thread	See 28.1	N/A
	Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer	See 28.1	N/A
	Thread-cutting, thread rolling and space threaded screws may be used in connections providing earthing continuity provided it is not necessary to disturb the connection:		N/A
	- in normal use,	See 28.1	N/A
	- during user maintenance,	See 28.1	N/A
	- when replacing a supply cord having a type X attachment, or	See 28.1	N/A
	- during installation	See 28.1	N/A
	At least two screws being used for each connection providing earthing continuity, unless	See 28.1	N/A
	the screw forms a thread having a length of at least half the diameter of the screw	See 28.1	N/A
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity	See 28.1	N/A
	This requirement does not apply to screws in the earthing circuit if at least two screws are used, or	See 28.1	N/A
	if an alternative earthing circuit is provided	See 28.1	N/A
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if the connections are subjected to torsion	See 28.1	N/A
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		N/A
	Clearances, creepage distances and solid insulation withstand electrical stress	To be assessed in end appliance	N/A
	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), Annex J applies..... :	To be assessed in end appliance	N/A
	The microenvironment is pollution degree 1 under type 1 protection	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3	To be assessed in end appliance	N/A
	These values apply to functional, basic, supplementary and reinforced insulation	To be assessed in end appliance	N/A
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless	(see appended table) To be assessed in end appliance	N/A
	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14	To be assessed in end appliance	N/A
	However, if the distances are affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500V and above are increased by 0,5 mm and the impulse voltage test is not applicable	To be assessed in end appliance	N/A
	For appliances intended for use at altitudes exceeding 2 000 m, the clearances in Table 16 is increased according to the relevant multiplier values in Table A.2 of IEC 60664-1	To be assessed in end appliance	N/A
	Impulse voltage test is not applicable:		N/A
	- when the microenvironment is pollution degree 3, or	To be assessed in end appliance	N/A
	- for basic insulation of class 0 and class 01 appliances, or	To be assessed in end appliance	N/A
	- to appliances intended for use at altitudes exceeding 2 000 m	To be assessed in end appliance	N/A
	Appliances are in overvoltage category II	To be assessed in end appliance	N/A
	A force of 2 N is applied to bare conductors, other than heating elements	To be assessed in end appliance	N/A
	A force of 30 N is applied to accessible surfaces	To be assessed in end appliance	N/A
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage	See 29.1	N/A
	The values of table 16 or the impulse voltage test of clause 14 are applicable	(see appended table) See 29.1	N/A
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1	See 29.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Lacquered conductors of windings considered to be bare conductors	See 29.1	N/A
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16:	(see appended table) See 29.1	N/A
29.1.3	Clearances of reinforced insulation not less than those specified for basic insulation in table 16, using the next higher step for rated impulse voltage:	(see appended table) See 29.1	N/A
	For double insulation, with no intermediate conductive part between basic and supplementary insulation, clearances are measured between live parts and the accessible surface, and the insulation system is treated as reinforced insulation	See 29.1	N/A
29.1.4	Clearances for functional insulation are the largest values determined from:		N/A
	- table 16 based on the rated impulse voltage..... :	(see appended table) See 29.1	N/A
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz	See 29.1	N/A
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz	See 29.1	N/A
	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless	See 29.1	N/A
	the microenvironment is pollution degree 3, or	See 29.1	N/A
	the distances can be affected by wear, distortion, movement of the parts or during assembly	See 29.1	N/A
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited	See 29.1	N/A
	Lacquered conductors of windings considered to be bare conductors	See 29.1	N/A
	However, clearances at crossover points are not measured	See 29.1	N/A
	Clearance between surfaces of PTC heating elements may be reduced to 1mm	See 29.1	N/A
29.1.5	Appliances having higher working voltages than rated voltage, clearances for basic insulation are the largest values determined from:		N/A
	- table 16 based on the rated impulse voltage..... :	See 29.1	N/A
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz	See 29.1	N/A
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz	See 29.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1 or Clause 4 of IEC 60664-4, the clearances of supplementary insulation are not less than those specified for basic insulation	See 29.1	N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160% of the withstand voltage required for basic insulation	See 29.1	N/A
	If clearances for basic insulation are selected from Clause 4 of IEC 60664-4, the clearances of reinforced insulation are twice the value required for basic insulation	See 29.1	N/A
	If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage	See 29.1	N/A
	Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation are based on the working voltage used as the rated voltage in table 15	See 29.1	N/A
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree :	(see appended table) See 29.1	N/A
	Pollution degree 2 applies, unless	See 29.1	N/A
	- precautions taken to protect the insulation; pollution degree 1	See 29.1	N/A
	- insulation subjected to conductive pollution; pollution degree 3	See 29.1	N/A
	A force of 2 N is applied to bare conductors, other than heating elements	See 29.1	N/A
	A force of 30 N is applied to accessible surfaces	See 29.1	N/A
	In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system	See 29.1	N/A
29.2.1	Creepage distances of basic insulation not less than specified in table 17 :	(see appended table) See 29.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 17..... :	See 29.1	N/A
	Except for pollution degree 1, corresponding creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14..... :	See 29.1	N/A
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or..... :	(see appended table) See 29.1	N/A
	Table 2 of IEC 60664-4, as applicable..... :	See 29.1	N/A
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or..... :	(see appended table) See 29.1	N/A
	Table 2 of IEC 60664-4, as applicable..... :	See 29.1	N/A
29.2.4	Creepage distances of functional insulation not less than specified in table 18..... :	(see appended table)	N/A
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 18..... :	Less than 30kHz intended, although fault testing may be conducted across functional testing per clause below and 19.11.2	N/A
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited	Shorting conducted from pin-to-pin on IC itself (with 0.5mm spacings between). See Attachment 3 for details	P
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses	See 29.1	N/A
	Compliance checked:		N/A
	- by measurement, in accordance with 29.3.1, or	See 29.1	N/A
	- by an electric strength test in accordance with 29.3.2, or	See 29.1	N/A
	- for insulation, other than single layer internal wiring insulation, by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and	See 29.1	N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or	See 29.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- by an assessment of the thermal quality of the material according to 29.3.3 combined with an electric strength test in accordance with 23.5, for each single layer internal wiring insulation touching each other, or	See 29.1	N/A
	- as specified in subclause 6.3 of IEC 60664-4 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz	See 29.1	N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm	See 29.1	N/A
	Reinforced insulation have a thickness of at least 2 mm	See 29.1	N/A
29.3.2	Each layer of material withstand the electric strength test of 16.3 for supplementary insulation	See 29.1	N/A
	Supplementary insulation consist of at least 2 layers	See 29.1	N/A
	Reinforced insulation consist of at least 3 layers	See 29.1	N/A
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by	See 29.1	N/A
	the electric strength test of 16.3	See 29.1	N/A
	If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out	See 29.1	N/A
29.3.4	Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in table 19..... :	See 29.1	N/A
30	RESISTANCE TO HEAT AND FIRE		P
30.1	External parts of non-metallic material,	To be assessed in end appliance application	N/A
	parts supporting live parts, and	Tested with ball-pressure test as indicated below; however additionally to be evaluated in the end appliance	P
	parts of thermoplastic material providing supplementary or reinforced insulation	To be assessed in end appliance application	N/A
	sufficiently resistant to heat		P
	Ball-pressure test according to IEC 60695-10-2	Tested however additionally to be considered in the end appliance	P
	External parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature (°C)..... :	(see appended table 30.1) To be assessed in end appliance application	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Parts supporting live parts tested at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C)..... :	(see appended table 30.1) and additionally to be evaluated in the end appliance	P
	Parts of thermoplastic material providing supplementary or reinforced insulation tested at 25 °C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C)..... :	(see appended table 30.1) To be assessed in end appliance application	N/A
30.2	Parts of non-metallic material resistant to ignition and spread of fire	To be assessed in end appliance application	N/A
	This requirement does not apply to:		N/A
	parts having a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or	To be assessed in end appliance application	N/A
	decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance	To be assessed in end appliance application	N/A
	Compliance checked by the test of 30.2.1, and in addition:	To be assessed in end appliance application	N/A
	- for attended appliances, 30.2.2 applies	To be assessed in end appliance application	N/A
	- for unattended appliances, 30.2.3 applies	To be assessed in end appliance application	N/A
	For appliances for remote operation, 30.2.3 applies	To be assessed in end appliance application	N/A
	For base material of printed circuit boards, 30.2.4 applies	To be assessed in end appliance application	N/A
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11 at 550°C	(see appended table 30.2) To be assessed in end appliance application	N/A
	However, test not carried out if the material is classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 550 °C, or	To be assessed in end appliance application	N/A
	the material is classified at least HB40 according to IEC 60695-11-10	To be assessed in end appliance application	N/A
	Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF	To be assessed in end appliance application	N/A
30.2.2	Appliances operated while attended, parts of non-metallic material supporting current-carrying connections, and	To be assessed in end appliance application	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	parts of non-metallic material within a distance of 3mm of such connections,	To be assessed in end appliance application	N/A
	subjected to the glow-wire test of IEC 60695-2-11 with appropriate severity level:	(see appended table 30.2) To be assessed in end appliance application	N/A
	- 750 °C, for connections carrying a current exceeding 0,5 A during normal operation	To be assessed in end appliance application	N/A
	- 650 °C, for other connections	To be assessed in end appliance application	N/A
	Glow-wire applied to an interposed shielding material, if relevant	To be assessed in end appliance application	N/A
	The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least:		N/A
	- 750 °C, for connections carrying a current exceeding 0,5 A during normal operation	To be assessed in end appliance application	N/A
	- 650 °C, for other connections	To be assessed in end appliance application	N/A
	The glow-wire test is also not carried out on small parts. These parts are to:		N/A
	- comprise material having a glow-wire flammability index of at least 750 °C, or 650 °C as appropriate, or	To be assessed in end appliance application	N/A
	- comply with the needle-flame test of Annex E, or	(see appended table 30.2/30.2.4) To be assessed in end appliance application	N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10..... :	To be assessed in end appliance application	N/A
	Glow-wire test not applicable to conditions as specified..... :	To be assessed in end appliance application	N/A
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2	To be assessed in end appliance application	N/A
	The tests are not applicable to conditions as specified..... :	To be assessed in end appliance application	N/A
30.2.3.1	Parts of non-metallic material supporting connections carrying a current exceeding 0,2 A during normal operation, and	To be assessed in end appliance application	N/A
	parts of non-metallic material, other than small parts, within a distance of 3 mm,	To be assessed in end appliance application	N/A
	subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850 °C	(see appended table 30.2) To be assessed in end appliance application	N/A
	Glow-wire applied to an interposed shielding material, if relevant	To be assessed in end appliance application	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 850 °C	To be assessed in end appliance application	N/A
30.2.3.2	Parts of non-metallic material supporting connections, and	To be assessed in end appliance application	N/A
	parts of non-metallic material within a distance of 3mm,	To be assessed in end appliance application	N/A
	subjected to the glow-wire test of IEC 60695-2-11 with appropriate severity level:	(see appended table 30.2) To be assessed in end appliance application	N/A
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation	To be assessed in end appliance application	N/A
	- 650 °C, for other connections	To be assessed in end appliance application	N/A
	Glow-wire applied to an interposed shielding material, if relevant	To be assessed in end appliance application	N/A
	However, the glow-wire test of 750 °C or 650 °C as appropriate, is not carried out on parts of material fulfilling both or either of the following classifications:		N/A
	- a glow-wire ignition temperature according to IEC 60695-2-13 of at least:	To be assessed in end appliance application	N/A
	<ul style="list-style-type: none"> 775 °C, for connections carrying a current exceeding 0,2 A during normal operation 	To be assessed in end appliance application	N/A
	<ul style="list-style-type: none"> 675 °C, for other connections 	To be assessed in end appliance application	N/A
	- a glow-wire flammability index according to IEC 60695-2-12 of at least:	To be assessed in end appliance application	N/A
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation	To be assessed in end appliance application	N/A
	- 650 °C, for other connections	To be assessed in end appliance application	N/A
	The glow-wire test is also not carried out on small parts. These parts are to:		N/A
	- comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or	To be assessed in end appliance application	N/A
	- comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or	To be assessed in end appliance application	N/A
	- comply with the needle-flame test of Annex E, or	To be assessed in end appliance application	N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10	To be assessed in end appliance application	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	The consequential needle-flame test of Annex E applied to non-metallic parts that encroach within the vertical cylinder placed above the centre of the connection zone and on top of the non-metallic parts supporting current-carrying connections, and parts of non-metallic material within a distance of 3 mm of such connections if these parts are those:		N/A
	- parts that withstood the glow-wire test of IEC 60695-2-11 of 750 °C or 650 °C as appropriate, but produce a flame that persist longer than 2 s, or	To be assessed in end appliance application	N/A
	- parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or	To be assessed in end appliance application	N/A
	- small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or	To be assessed in end appliance application	N/A
	- small parts for which the needle-flame test of Annex E was applied, or	To be assessed in end appliance application	N/A
	- small parts for which a material classification of V-0 or V-1 was applied	To be assessed in end appliance application	N/A
	However, the consequential needle-flame test is not carried out on non-metallic parts, including small parts, within the cylinder that are:		N/A
	- parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or	To be assessed in end appliance application	N/A
	- parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or	To be assessed in end appliance application	N/A
	- parts shielded by a flame barrier that meets the needle-flame test of Annex E or that comprises material classified as V-0 or V-1 according to IEC 60695-11-10	To be assessed in end appliance application	N/A
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of Annex E	(see appended table 30.2/30.2.4) To be assessed in end appliance application	N/A
	Test not applicable to conditions as specified..... :		N/A
31	RESISTANCE TO RUSTING		N/A
	Relevant ferrous parts adequately protected against rusting	To be assessed in end appliance	N/A
	Tests specified in part 2 when necessary		N/A
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		N/A
	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use	To be assessed in end appliance	N/A
	Compliance is checked by the limits or tests specified in part 2, if relevant	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
A	ANNEX A (INFORMATIVE) ROUTINE TESTS		N/A
	Description of routine tests to be carried out by the manufacturer	To be assessed in end appliance	N/A
B	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BATTERIES THAT ARE RECHARGED IN THE APPLIANCE		N/A
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance	To be assessed in end appliance	N/A
	Three forms of construction covered:		N/A
	a) Appliance supplied directly from the supply mains or a renewable energy source, the battery charging circuitry and other supply unit circuitry incorporated within the appliance	To be assessed in end appliance	N/A
	b) The part of the appliance incorporating the battery is supplied from the supply mains or a renewable energy source, via a detachable supply unit. The battery charging circuitry is incorporated within the part of the appliance containing the battery	To be assessed in end appliance	N/A
	c) The part of the appliance incorporating the battery is supplied from the supply mains or a renewable energy source, via a detachable supply unit. The battery charging circuitry is incorporated within the detachable supply unit	To be assessed in end appliance	N/A
3.1.9	Appliance operated under the following conditions:		N/A
	- the appliance, supplied by its fully charged battery, operated as specified in relevant part 2	To be assessed in end appliance	N/A
	- the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate	To be assessed in end appliance	N/A
	-if possible, the appliance is supplied from the supply mains through its battery charger, the battery being initially discharged to such an extent that the appliance cannot operate. The appliance is operated as specified in relevant part 2	To be assessed in end appliance	N/A
	- if the appliance incorporates inductive coupling between two parts that are detachable from each other, the appliance is supplied from the supply mains with the detachable part removed	To be assessed in end appliance	N/A
3.6.2	Part to be removed in order to discard the battery is not considered to be detachable	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.B.101	Appliances supplied from the supply mains tested as specified for motor-operated appliances	To be assessed in end appliance	N/A
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage (V) and polarity of the terminals..... : The positive terminal indicated by symbol IEC 60417-5005 and the negative terminal by symbol IEC 60417-5006	To be assessed in end appliance	N/A
	Appliances intending to be supplied from a detachable supply unit marked with symbol IEC 60417-6181 and its type reference along with symbol ISO 7000-0790 (2004-01), or	To be assessed in end appliance	N/A
	use only with <model designation> supply unit :	To be assessed in end appliance	N/A
7.6	Additional symbols	To be assessed in end appliance	N/A
7.12	The instructions give information regarding charging	To be assessed in end appliance	N/A
	The instructions for appliances incorporating batteries intended to be replaced by the user includes required information	To be assessed in end appliance	N/A
	Details about how to remove batteries containing materials hazardous to the environment given	To be assessed in end appliance	N/A
	For appliances intending to be supplied from a detachable supply unit for the purposes of recharging the battery, the type reference of the detachable supply unit is stated along with the following:		N/A
	WARNING: For the purposes of recharging the battery, only use the detachable supply unit provided with this appliance	To be assessed in end appliance	N/A
	If the symbol for detachable supply unit is used, its meaning is explained	To be assessed in end appliance	N/A
7.15	Markings placed on the part of the appliance connected to the supply mains	To be assessed in end appliance	N/A
	The type reference of the detachable supply unit is placed in close proximity to the symbol	To be assessed in end appliance	N/A
8.2	Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment	To be assessed in end appliance	N/A
	If the appliance can be operated without batteries, double or reinforced insulation required	To be assessed in end appliance	N/A
11.7	The battery is charged for the period stated in the instructions or 24 h :	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
11.8	Temperature rise of the battery surface does not exceed the limit in the battery manufacturer's specification; measured (K); limit (K) :	To be assessed in end appliance	N/A
	If no limit specified, the temperature rise does not exceed 20 K; measured (K) :	To be assessed in end appliance	N/A
19.1	Appliances subjected to tests of 19.B.101, 19.B.102 and 19.B.103	To be assessed in end appliance	N/A
19.10	Not applicable	To be assessed in end appliance	N/A
19.B.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged	To be assessed in end appliance	N/A
19.B.102	For appliances having batteries that can be removed without the aid of a tool, short-circuit of the terminals of the battery, the battery being fully charged,	To be assessed in end appliance	N/A
19.B.103	Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction	To be assessed in end appliance	N/A
19.13	The battery does not rupture or ignite	To be assessed in end appliance	N/A
21.B.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength	To be assessed in end appliance	N/A
	Part of the appliance incorporating the pins subjected to the free fall test, procedure 2, of IEC 60068-2-31, the number of falls being:		N/A
	- 100, if the mass of the part does not exceed 250 g (g) :	To be assessed in end appliance	N/A
	- 50, if the mass of the part exceeds 250 g..... :	To be assessed in end appliance	N/A
	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met	To be assessed in end appliance	N/A
22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible	To be assessed in end appliance	N/A
25.13	An additional lining or bushing not required for interconnection cords in class III appliances or class III constructions operating at safety extra-low voltage not containing live parts	To be assessed in end appliance	N/A
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies	To be assessed in end appliance	N/A
	For other parts, 30.2.2 applies	To be assessed in end appliance	N/A
C	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding	To be assessed in end appliance	N/A
	Test conditions as specified	To be assessed in end appliance	N/A
D	ANNEX D (NORMATIVE) THERMAL MOTOR PROTECTORS		N/A
	Applicable to appliances having motors that incorporate thermal motor protectors necessary for compliance with the standard	To be assessed in end appliance	N/A
	Test conditions as specified	To be assessed in end appliance	N/A
E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		N/A
	Needle-flame test carried out in accordance with IEC 60695-11-5, with the following modifications:		N/A
7	Severities		N/A
	The duration of application of the test flame is 30 s ± 1 s	To be assessed in end appliance	N/A
9	Test procedure		N/A
9.1	The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1	To be assessed in end appliance	N/A
9.2	The first paragraph does not apply	To be assessed in end appliance	N/A
	If possible, the flame is applied at least 10 mm from a corner	To be assessed in end appliance	N/A
9.3	The test is carried out on one specimen	To be assessed in end appliance	N/A
	If the specimen does not withstand the test, the test may be repeated on two additional specimens, both withstanding the test	To be assessed in end appliance	N/A
11	Evaluation of test results		N/A
	The duration of burning not exceeding 30 s	To be assessed in end appliance	N/A
	However, for printed circuit boards, the duration of burning not exceeding 15 s	To be assessed in end appliance	N/A
F	ANNEX F (NORMATIVE) CAPACITORS		N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or voltage dividing, comply with the following clauses of IEC 60384-14, with the following modifications:		N/A
1.5	Terms and definitions		N/A
1.5.3	Class X capacitors tested according to subclass X2	To be assessed in end appliance	N/A
1.5.4	This subclause is applicable	To be assessed in end appliance	N/A
1.6	Marking		N/A
	Items a) and b) are applicable	To be assessed in end appliance	N/A
3.4	Approval testing		N/A
3.4.3.2	Table 3 is applicable as described	To be assessed in end appliance	N/A
4.1	Visual examination and check of dimensions		N/A
	This subclause is applicable	To be assessed in end appliance	N/A
4.2	Electrical tests		N/A
4.2.1	This subclause is applicable	To be assessed in end appliance	N/A
4.2.5	This subclause is applicable	To be assessed in end appliance	N/A
4.2.5.2	Only table 11 is applicable	To be assessed in end appliance	N/A
	Values for test A apply	To be assessed in end appliance	N/A
	However, for capacitors in heating appliances the values for test B or C apply	To be assessed in end appliance	N/A
4.12	Damp heat, steady state		N/A
	This subclause is applicable	To be assessed in end appliance	N/A
	Only insulation resistance and voltage proof are checked	To be assessed in end appliance	N/A
4.13	Impulse voltage		N/A
	This subclause is applicable	To be assessed in end appliance	N/A
4.14	Endurance		N/A
	Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 are applicable	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.14.7	Only insulation resistance and voltage proof are checked	To be assessed in end appliance	N/A
	No visible damage	To be assessed in end appliance	N/A
4.17	Passive flammability test		N/A
	This subclause is applicable	To be assessed in end appliance	N/A
4.18	Active flammability test		N/A
	This subclause is applicable	To be assessed in end appliance	N/A
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		N/A
	The following modifications to this standard are applicable for safety isolating transformers:		N/A
7	Marking and instructions		N/A
7.1	Transformers for specific use marked with:		N/A
	-name, trademark or identification mark of the manufacturer or responsible vendor..... :	To be assessed in end appliance	N/A
	-model or type reference..... :	To be assessed in end appliance	N/A
17	Overload protection of transformers and associated circuits		N/A
	Fail-safe transformers comply with subclause 15.5 of IEC 61558-1	To be assessed in end appliance	N/A
22	Construction		N/A
	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable	To be assessed in end appliance	N/A
29	Clearances, creepage distances and solid insulation		N/A
29.1, 29.2, 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply	To be assessed in end appliance	N/A
	For insulated winding wires complying with subclause 19.12.3 of IEC 61558-1 there are no requirements for clearances or creepage distances	To be assessed in end appliance	N/A
	For windings providing reinforced insulation, the distance specified in item 2c of table 13 of IEC 61558-1 is not assessed	To be assessed in end appliance	N/A
	For safety isolating transformers subjected to periodic voltages with a frequency exceeding 30 kHz, the clearances, creepage distances and solid insulation values specified in IEC 60664-4 are applicable, if greater than the values specified in items 2a, 2c and 3 in table 13 of IEC 61558-1	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
H	ANNEX H (NORMATIVE) SWITCHES		N/A
	Switches comply with the following clauses of IEC 61058-1, as modified below:		N/A
	The tests of IEC 61058-1 carried out under the conditions occurring in the appliance	To be assessed in end appliance	N/A
	Before being tested, switches are operated 20 times without load	To be assessed in end appliance	N/A
8	Marking and documentation		N/A
	Switches are not required to be marked	To be assessed in end appliance	N/A
	However, a switch that can be tested separately from the appliance marked with the manufacturer's name or trade mark and the type reference	To be assessed in end appliance	N/A
13	Mechanism		N/A
	The tests may be carried out on a separate sample	To be assessed in end appliance	N/A
15	Insulation resistance and dielectric strength		N/A
15.1	Not applicable	To be assessed in end appliance	N/A
15.2	Not applicable	To be assessed in end appliance	N/A
15.3	Applicable for full disconnection and micro-disconnection	To be assessed in end appliance	N/A
17	Endurance		N/A
	Compliance is checked on three separate appliances or switches	To be assessed in end appliance	N/A
	For 17.2.4.4, the number of cycles declared according to 7.1.4 is 10 000, unless	To be assessed in end appliance	N/A
	otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335..... :	To be assessed in end appliance	N/A
	Switches for operation under no load and which can be operated only by a tool, and	To be assessed in end appliance	N/A
	switches operated by hand that are interlocked so that they cannot be operated under load,	To be assessed in end appliance	N/A
	are not subjected to the tests	To be assessed in end appliance	N/A
	However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Subclauses 17.2.2 and 17.2.5.2 not applicable	To be assessed in end appliance	N/A
	The ambient temperature during the test is that occurring in the appliance during the test of Clause 11 in IEC 60335-1	To be assessed in end appliance	N/A
	The temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1 (K)	To be assessed in end appliance	N/A
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies		N/A
	Clause 20 is applicable to clearances across full disconnection and micro-disconnection	To be assessed in end appliance	N/A
	It is also applicable to creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in Table 24	To be assessed in end appliance	N/A
I	ANNEX I (NORMATIVE) MOTORS HAVING BASIC INSULATION THAT IS INADEQUATE FOR THE RATED VOLTAGE OF THE APPLIANCE		N/A
	The following modifications to this standard are applicable for motors having basic insulation that is inadequate for the rated voltage of the appliance:		N/A
8	Protection against access to live parts		N/A
8.1	Metal parts of the motor are considered to be bare live parts	To be assessed in end appliance	N/A
11	Heating		N/A
11.3	The temperature rise of the body of the motor is determined instead of the temperature rise of the windings	To be assessed in end appliance	N/A
11.8	The temperature rise of the body of the motor, where in contact with insulating material, not exceeding values in table 3 for the relevant insulating material	To be assessed in end appliance	N/A
16	Leakage current and electric strength		N/A
16.3	Insulation between live parts of the motor and its other metal parts is not subjected to the test	To be assessed in end appliance	N/A
19	Abnormal operation		N/A
19.1	The tests of 19.7 to 19.9 are not carried out	To be assessed in end appliance	N/A
19.I.101	Appliance operated at rated voltage with each of the following fault conditions:		N/A
	- short circuit of the terminals of the motor, including any capacitor incorporated in the motor circuit	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- short circuit of each diode of the rectifier	To be assessed in end appliance	N/A
	- open circuit of the supply to the motor	To be assessed in end appliance	N/A
	- open circuit of any parallel resistor, the motor being in operation	To be assessed in end appliance	N/A
	Only one fault simulated at a time, the tests carried out consecutively	To be assessed in end appliance	N/A
22	Construction		N/A
22.1.101	For class I appliances incorporating a motor supplied by a rectifier circuit, the d.c. circuit being insulated from accessible parts of the appliance by double or reinforced insulation	To be assessed in end appliance	N/A
	Compliance checked by the tests specified for double and reinforced insulation	To be assessed in end appliance	N/A
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS		N/A
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with the following modifications:		N/A
5.7	Conditioning of the test specimens		N/A
	When production samples are used, three samples of the printed circuit board are tested	To be assessed in end appliance	N/A
5.7.1	Cold		N/A
	The test is carried out at -25 °C	To be assessed in end appliance	N/A
5.7.3	Rapid change of temperature		N/A
	Severity 1 is specified	To be assessed in end appliance	N/A
5.9	Additional tests		N/A
	This subclause is not applicable	To be assessed in end appliance	N/A
K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		N/A
	The information on overvoltage categories is extracted from IEC 60664-1	To be assessed in end appliance	N/A
	Overvoltage category is a numeral defining a transient overvoltage condition		N/A
	Equipment of overvoltage category IV is for use at the origin of the installation	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements	To be assessed in end appliance	N/A
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation	To be assessed in end appliance	N/A
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies	To be assessed in end appliance	N/A
	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level	To be assessed in end appliance	N/A
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES		N/A
	Information for the determination of clearances and creepage distances	To be assessed in end appliance	N/A
M	ANNEX M (NORMATIVE) POLLUTION DEGREE		N/A
	The information on pollution degrees is extracted from IEC 60664-1	To be assessed in end appliance	N/A
	Pollution		N/A
	The microenvironment determines the effect of pollution on the insulation, taking into account the macroenvironment	To be assessed in end appliance	N/A
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar	To be assessed in end appliance	N/A
	Minimum clearances specified where pollution may be present in the microenvironment	To be assessed in end appliance	N/A
	Degrees of pollution in the microenvironment		N/A
	For evaluating creepage distances, the following degrees of pollution in the microenvironment are established:		N/A
	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence	To be assessed in end appliance	N/A
	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected	To be assessed in end appliance	N/A
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow	To be assessed in end appliance	N/A
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		N/A
	The proof tracking test is carried out in accordance with IEC 60112 with the following modifications:		N/A
7	Test apparatus		N/A
7.3	Test solutions		N/A
	Test solution A is used	To be assessed in end appliance	N/A
10	Determination of proof tracking index (PTI)		N/A
10.1	Procedure		N/A
	The proof voltage is 100V, 175V, 400V or 600V .. :	To be assessed in end appliance	N/A
	The test is carried out on five specimens	To be assessed in end appliance	N/A
	In case of doubt, additional test with proof voltage reduced by 25V, the number of drops increased to 100	To be assessed in end appliance	N/A
10.2	Report		N/A
	The report states if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V	To be assessed in end appliance	N/A
O	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30		N/A
	Description of tests for determination of resistance to heat and fire	To be assessed in end appliance	N/A
P	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES		N/A
	Modifications applicable for class 0 and 01 appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WDaE		N/A
	Modifications may also be applied to class 1 appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WdaE, if liable to be connected to a supply mains that excludes the protective earthing conductor		N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.7	The ambient temperature for the tests of clauses 11 and 13 is 40 +3/0 °C	To be assessed in end appliance	N/A
7.1	The appliance marked with the letters WDaE	To be assessed in end appliance	N/A
7.12	The instructions state that the appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA	To be assessed in end appliance	N/A
	The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries	To be assessed in end appliance	N/A
11.8	The values of Table 3 are reduced by 15 K	To be assessed in end appliance	N/A
13.2	The leakage current for class I appliances not exceeding 0,5 mA	To be assessed in end appliance	N/A
15.3	The value of t is 37 °C	To be assessed in end appliance	N/A
16.2	The leakage current for class I appliances not exceeding 0,5 mA (mA):	To be assessed in end appliance	N/A
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3	To be assessed in end appliance	N/A
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS		N/A
	Description of tests for appliances incorporating electronic circuits		N/A
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 validated in accordance with the requirements of this annex	No programmable component	N/A
R.1	Programmable electronic circuits using software		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 constructed so that the software does not impair compliance with the requirements of this standard	No programmable component	N/A
R.2	Requirements for the architecture		N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 use measures to control and avoid software-related faults/errors in safety-related data and safety-related segments of the software	See R.1	N/A
R.2.1.1	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.2 have one of the following structures:		N/A
	- single channel with periodic self-test and monitoring	See R.1	N/A
	- dual channel (homogenous) with comparison	See R.1	N/A
	- dual channel (diverse) with comparison	See R.1	N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 have one of the following structures:		N/A
	- single channel with functional test	See R.1	N/A
	- single channel with periodic self-test	See R.1	N/A
	- dual channel without comparison	See R.1	N/A
R.2.2	Measures to control faults/errors		N/A
R.2.2.1	When redundant memory with comparison is provided on two areas of the same component, the data in one area is stored in a different format from that in the other area	See R.1	N/A
R.2.2.2	Programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.2 and that use dual channel structures with comparison, have additional fault/error detection means for any fault/errors not detected by the comparison	See R.1	N/A
R.2.2.3	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, means are provided for the recognition and control of errors in transmissions to external safety-related data paths	See R.1	N/A
R.2.2.4	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the programmable electronic circuits incorporate measures to address the fault/errors in safety-related segments and data indicated in table R.1 and R.2 as appropriate	See R.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
R.2.2.5	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, detection of a fault/error occur before compliance with clause 19 is impaired	See R.1	N/A
R.2.2.6	The software is referenced to relevant parts of the operating sequence and the associated hardware functions	See R.1	N/A
R.2.2.7	Labels used for memory locations are unique	See R.1	N/A
R.2.2.8	The software is protected from user alteration of safety-related segments and data	See R.1	N/A
R.2.2.9	Software and safety-related hardware under its control is initialized and terminates before compliance with clause 19 is impaired	See R.1	N/A
R.3	Measures to avoid errors		N/A
R.3.1	General		N/A
	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the following measures to avoid systematic fault in the software are applied		N/A
	Software that incorporates measures used to control the fault/error conditions specified in table R.2 is inherently acceptable for software required to control the fault/error conditions specified in table R.1	See R.1	N/A
R.3.2	Specification		N/A
R.3.2.1	Software safety requirements:	Software Id: See R.1	N/A
	The specification of the software safety requirements includes the descriptions listed	See R.1	N/A
R.3.2.2	Software architecture		N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
R.3.2.2.1	The specification of the software architecture includes the aspects listed <ul style="list-style-type: none"> - techniques and measures to control software faults/errors (refer to R.2.2); - interactions between hardware and software; - partitioning into modules and their allocation to the specified safety functions; - hierarchy and call structure of the modules (control flow); - interrupt handling; - data flow and restrictions on data access; - architecture and storage of data; - time-based dependencies of sequences and data 	Document ref. No: See R.1	N/A
R.3.2.2.2	The architecture specification is validated against the specification of the software safety requirements by static analysis	See R.1	N/A
R.3.2.3	Module design and coding		N/A
R.3.2.3.1	Based on the architecture design, software is suitably refined into modules	See R.1	N/A
	Software module design and coding is implemented in a way that is traceable to the software architecture and requirements	See R.1	N/A
R.3.2.3.2	Software code is structured	See R.1	N/A
R.3.2.3.3	Coded software is validated against the module specification by static analysis	See R.1	N/A
	The module specification is validated against the architecture specification by static analysis	See R.1	N/A
R.3.3.3	Software validation		N/A
	The software is validated with reference to the requirements of the software safety requirements specification	See R.1	N/A
	Compliance is checked by simulation of:		N/A
	- input signals present during normal operation	See R.1	N/A
	- anticipated occurrences	See R.1	N/A
	- undesired conditions requiring system action	See R.1	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE R.1 ^e – GENERAL FAULT/ERROR CONDITIONS						
Component ^a	Fault/error	Acceptable measures ^{b, c}	Definitions	Document reference for applied measure	Document reference for applied test	Verdict
1 CPU 1.1 Registers	Stuck at	Functional test, or periodic self-test using either: - static memory test, or - word protection with single bit redundancy	H.2.16.5 H.2.16.6 H.2.19.6 H.2.19.8.2	See R.1	See R.1	N/A
1.2 VOID						N/A
1.3 Programme counter	Stuck at	Functional test, or Periodic self-test, or Independent time-slot monitoring, or Logical monitoring of the programme sequence	H.2.16.5 H.2.16.6 H.2.18.10.4 H.2.18.10.2	See R.1	See R.1	N/A
2 Interrupt handling and execution	No interrupt or too frequent interrupt	Functional test, or time-slot monitoring	H.2.16.5 H.2.18.10.4	See R.1	See R.1	N/A
3 Clock	Wrong frequency (for quartz synchronized clock: harmonics/sub-harmonics only)	Frequency monitoring, or time slot monitoring	H.2.18.10.1 H.2.18.10.4	See R.1	See R.1	N/A
4. Memory 4.1 Invariable memory	All single bit faults	Periodic modified checksum, or multiple checksum, or word protection with single bit redundancy	H.2.19.3.1 H.2.19.3.2 H.2.19.8.2	See R.1	See R.1	N/A

IEC 60335-1						
Clause	Requirement + Test		Result - Remark			Verdict
4.2 Variable memory	DC fault	Periodic static memory test, or word protection with single bit redundancy	H.2.19.6 H.2.19.8.2	See R.1	See R.1	N/A
4.3 Addressing (relevant to variable and invariable memory)	Stuck at	Word protection with single bit redundancy including the address	H.2.19.8.2	See R.1	See R.1	N/A
5 Internal data path	Stuck at	Word protection with single bit redundancy	H.2.19.8.2	See R.1	See R.1	N/A
5.1 VOID						N/A
5.2 Addressing	Wrong address	Word protection with single bit redundancy including the address	H.2.19.8.2	See R.1	See R.1	N/A
6 External communicat ion	Hamming distance 3	Word protection with multi-bit redundancy, or CRC – single work, or Transfer redundancy, or Protocol test	H.2.19.8.1 H.2.19.4.1 H.2.18.2.2 H.2.18.14	See R.1	See R.1	N/A
6.1 VOID						N/A
6.2 VOID						N/A
6.3 Timing	Wrong point in time Wrong sequence	Time-slot monitoring, or scheduled transmission Time-slot and logical monitoring, or comparison of redundant communication channels by either: - reciprocal comparison - independent hardware comparator Logical monitoring, or time-slot monitoring, or Scheduled transmission	H.2.18.10.4 H.2.18.18 H.2.18.10.3 H.2.18.15 H.2.18.3 H.2.18.10.2 H.2.18.10.4 H.2.18.18	See R.1	See R.1	N/A

IEC 60335-1						
Clause	Requirement + Test		Result - Remark			Verdict
7 Input/output periphery	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13	See R.1	See R.1	N/A
7.1 VOID						N/A
7.2 Analog I/O	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13	See R.1	See R.1	N/A
7.2.1 A/D and D/A- converter						
7.2.2 Analog multiplexer	Wrong addressing	Plausibility check	H.2.18.13	See R.1	See R.1	N/A
8 VOID						N/A
9 Custom chips ^d e.g. ASIC, GAL, gate array	Any output outside the static and dynamic functional specificatio n	Periodic self-test	H.2.16.6	See R.1	See R.1	N/A
NOTE A Stuck-at fault model denotes a fault model representing an open circuit or a non-varying signal level. A DC fault model denotes a stuck-at fault model incorporating short circuit between signal lines.						
a) For fault/error assessment, some components are divided into their sub-functions. b) For each sub-function in the table, the Table R.2 measure will cover the software fault/error. c) Where more than one measure is given for a sub-function, these are alternatives. d) To be divided as necessary by the manufacturer into sub-functions. e) Table R.1 is applied according to the requirements of R.1 to R.2.2.9 inclusive.						

S	ANNEX S (NORMATIVE) BATTERY OPERATED APPLIANCES POWERED BY BATTERIES THAT ARE NON-RECHARGEABLE OR NOT RECHARGED IN THE APPLIANCE		N/A
	The following modifications to this standard are applicable for battery-operated appliances where the batteries are either non-rechargeable (primary batteries), or	To be assessed in end appliance	N/A
	rechargeable batteries (secondary batteries) that are not recharged in the appliance	To be assessed in end appliance	N/A
5.8.1	If the supply terminals for the connection of the battery have no indication of polarity, the more unfavourable polarity is applied	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.S.101	Appliances intended for use with a battery box are tested with the battery box supplied with the appliance or with the battery box recommended in the instructions	To be assessed in end appliance	N/A
5.S.102	Appliances are tested as motor-operated appliances.	To be assessed in end appliance	N/A
7.1	Appliances marked with the battery voltage (V) and the polarity of the terminals, unless: the polarity is irrelevant	To be assessed in end appliance	N/A
	Appliances also marked with:		N/A
	– name, trade mark or identification mark of the manufacturer or responsible vendor:	To be assessed in end appliance	N/A
	– model or type reference.....:	To be assessed in end appliance	N/A
	– IP number according to degree of protection against ingress of water, other than IPX0... ..:	To be assessed in end appliance	N/A
	– type reference of battery or batteries.....:	To be assessed in end appliance	N/A
	If relevant, the positive terminal is indicated by the symbol IEC 60417-5005 and the negative terminal by the symbol IEC 60417-5006	To be assessed in end appliance	N/A
	If appliances use more than one battery, they are marked to indicate correct polarity connection of the batteries	To be assessed in end appliance	N/A
7.6	Additional symbols	To be assessed in end appliance	N/A
7.12	The instructions contain the following, as applicable:		N/A
	– the types of batteries that may be used... ..:	To be assessed in end appliance	N/A
	– how to remove and insert the batteries	To be assessed in end appliance	N/A
	– non-rechargeable batteries are not to be recharged	To be assessed in end appliance	N/A
	– rechargeable batteries are to be removed from the appliance before being charged	To be assessed in end appliance	N/A
	– different types of batteries or new and used batteries are not to be mixed	To be assessed in end appliance	N/A
	– batteries are to be inserted with the correct polarity	To be assessed in end appliance	N/A
	– exhausted batteries are to be removed from the appliance and safely disposed of	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
	– if the appliance is to be stored unused for a long period, the batteries are removed	To be assessed in end appliance	N/A
	– the supply terminals are not to be short-circuited	To be assessed in end appliance	N/A
11.5	Appliances are supplied with the most unfavourable supply voltage between		N/A
	– 0,55 and 1,0 times the battery voltage, if the appliance can be used with non-rechargeable batteries	To be assessed in end appliance	N/A
	– 0,75 and 1,0 times battery voltage, if the appliance is designed for use with rechargeable batteries only	To be assessed in end appliance	N/A
	The values specified in Table S.101 for the internal resistance per cell of the battery is taken into account	To be assessed in end appliance	N/A
19.1	The tests are carried out with the battery fully charged unless otherwise specified	To be assessed in end appliance	N/A
19.13	The battery does not rupture or ignite	To be assessed in end appliance	N/A
19.S.101	Appliances are supplied with the voltage specified in 11.5. The supply terminals having an indication of polarity are connected to the opposite polarity, unless	To be assessed in end appliance	N/A
	such a connection is unlikely to occur due to the construction of the appliance	To be assessed in end appliance	N/A
19.S.102	For appliances with provision for multiple batteries, one or more of the batteries are reversed and the appliance is operated, if reversal of batteries is allowed by the construction	To be assessed in end appliance	N/A
25.5	The flexible leads or flexible cord used to connect an external battery or battery box in is connected to the appliance by a type X attachment	To be assessed in end appliance	N/A
25.13	This requirement is not applicable to the flexible leads or flexible cord connecting external batteries or a battery box with an appliance	To be assessed in end appliance	N/A
25.S.101	Appliances have suitable means for connection of the battery. If the type of battery is marked on the appliance, the means of connection is suitable for this type of battery	To be assessed in end appliance	N/A
26.5	Terminal devices in an appliance for the connection of the flexible leads or flexible cord connecting an external battery or battery box are so located or shielded that there is no risk of accidental connection between supply terminals	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict
30.2.3.2	There is no battery in the area of the vertical cylinder used for the consequential needle flame test, unless	To be assessed in end appliance	N/A
	the battery is shielded by a barrier that meets the needle flame test of Annex E, or	To be assessed in end appliance	N/A
	that comprises material classified as V-0 or V-1 according to IEC 60695-11-10	To be assessed in end appliance	N/A

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

10.1	TABLE: Power input deviation					N/A
Input deviation of/at:	P rated (W)	P measured (W)	ΔP	Required ΔP	Remark	

Supplementary information:

With Input DC Current of 0.96A with 0.965/0.952/0.986A motor current on phases U/V/W with inverter output power at 299W. See Attachment 2 Section 7.5 for additional details and lower power measurements, and Section 8.3 for test setup details.

10.2	TABLE: Current deviation					N/A
Current deviation of/at:	I rated (A)	I measured (A)	ΔI	Required ΔI	Remark	

Supplementary information:

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

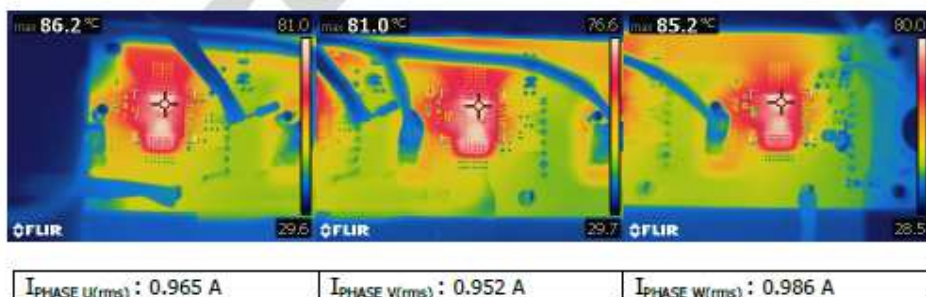
11.8	TABLE: Heating test		P
	Test voltage (V) :	DC340; additionally expected to be assessed in end appliance	—
	Ambient (°C) :	30; additionally expected to be assessed in end appliance	—

Thermocouple locations:	Max. temperature rise measured, Δ T (K)	Max. temperature rise limit, Δ T (K)
IC case #1	see max temps below	100&
IC case #2	see max temps below	100&
IC case #3	see max temps below	100&

Supplementary information:

Note & - Limit is considered to be the printed circuit board rating (130C), with epoxy housing have a 150C self declared rating. The end use circuit board temperatures should be considered in the end appliance.

At 300W



Product was operating for 30 minutes at 300W at constant speed of 5000rpm. See Section 7.3 of Attachment 2 for additional details. Ambient temperature was approximately 30 degrees Celsius.

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

11.8	TABLE: Heating test, resistance method					N/A
	Test voltage (V)..... :					—
	Ambient, t1 (°C)..... :					—
	Ambient, t2 (°C)..... :					—
Temperature rise of winding:	R1 (Ω)	R2 (Ω)	Δ T (K)	Max. Δ T (K)	Insulation class	
Supplementary information:						

13.2	TABLE: Leakage current			N/A
	Heating appliances: 1.15 x rated input (W)....:			—
	Motor-operated and combined appliances: 1.06 x rated voltage (V)			—
Leakage current between:	I (mA)		Max. allowed I (mA)	
Supplementary information:				

13.3	TABLE: Dielectric strength		N/A
Test voltage applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)	
Supplementary information:			

IEC 60335-1						
Clause	Requirement + Test			Result - Remark	Verdict	
14	TABLE: Transient overvoltages				N/A	
Clearance between:		CI (mm)	Required CI (mm)	Rated impulse voltage (V)	Impulse test voltage (V)	Flashover (Yes/No)
Supplementary information:						

16.2	TABLE: Leakage current			N/A
Single phase appliances: 1.06 x rated voltage (V).....:				—
Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$ (V).....:				—
Leakage current between:			I (mA)	Max. allowed I (mA)
Supplementary information:				

16.3	TABLE: Dielectric strength		N/A
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Supplementary information:			

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

17	TABLE: Overload protection			N/A
Thermocouple locations:	Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)		
Supplementary information:				

17	TABLE: Overload protection, resistance method					N/A
	Test voltage (V)..... :					—
	Ambient, t1 (°C)..... :					—
	Ambient, t2 (°C)..... :					—
Temperature of winding:	R1 (Ω)	R2 (Ω)	ΔT (K)	T (°C)	Max. T (°C)	
Supplementary information:						

19	Abnormal operation conditions						P
Operational characteristics		YES/NO	Operational conditions				
Are there electronic circuits to control the appliance operation?		N/A	To be assessed in end appliance				
Are there “off” or “stand-by” position?		N/A	To be assessed in end appliance				
The unintended operation of the appliance results in dangerous malfunction?		N/A	To be assessed in end appliance				
Sub-clause	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.7	Stalled motor	See Table 19.7 below	Overcurrent in FET and shutdown	#	N/A	Single faults conducted per Attachment	P

IEC 60335-1							
Clause	Requirement + Test			Result - Remark		Verdict	
						2	
19.8	Phase disconnected			#	N/A	Single faults conducted per Attachment 2	P
19.9	Running overload	See Table 19.9 below	Overcurrent in FET and shutdown	#	N/A	Single faults conducted per Attachment 2	P
19.11.2	Motor operation	See Attachment 3		#	N/A	Single faults conducted per Attachment 3	N/A
Supplementary information:							
Note # - EMC immunity tests and other relevant clause 19 tests to be conducted in the end product application.							

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

19.7	TABLE: Abnormal operation, locked rotor/moving parts				P	
	Test voltage (V)..... :	DC340V		—		
	Ambient, t1 (°C)..... :	25		—		
	Ambient, t2 (°C)..... :	-		—		
Temperature of winding:		R1 (Ω)	R2 (Ω)	Δ T (K)	T (°C)	Max. T (°C)
N/A – Motor not part of evaluation						

Supplementary information:

TEST RESULT SUMMARY – RXL resistor stuffed with 44.2kohm resistor which is setting the current limit to be a factor of 1.0 of the maximum peak current rating (or 3A for Model BRD1265C tested). Timing for shutdown is shown below in Figure 22 (excerpted from Attachment 2), where maximum 3A shown, with a shutdown timing of less than 1 ms. The Vfault signal shown is an indication of the fault, but software was not involved in the shutdown. See 7.6.1 and 8.3 of Attachment 2 for additional test results and test setup details.

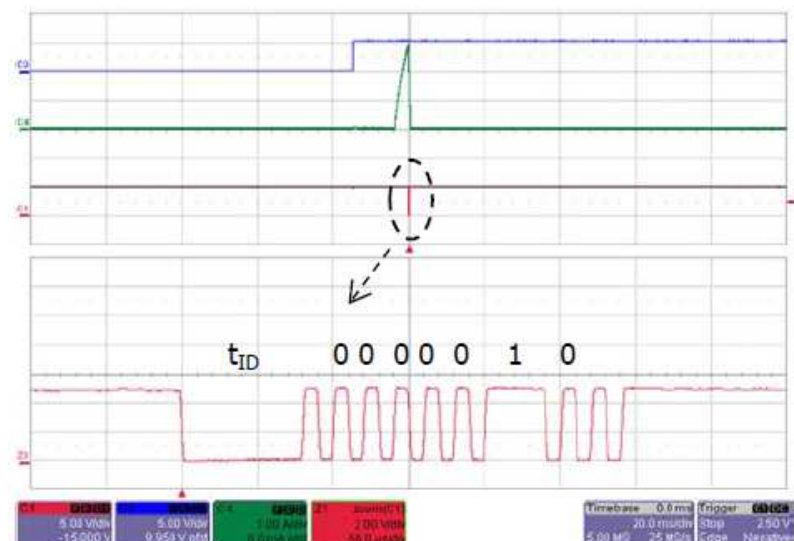


Figure 22 – Over-current –Startup Stalled Motor
 Peak motor current: 3.0 A R_{XL}: 44.2 kΩ
 Status update: 000 00 1 0 (LS OC)
 First: INL input, 5 V/div.
 Second: I_{PHASE W}, 1 A/div.
 Third: V_{FAULT}, 2 V/div., 20 ms/div.
 Zoom: 50 μs/div.

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

TEST RESULT SUMMARY – Stalled at startup, as above. Timing for shutdown is shown below in Figure 41 (excerpted from Attachment 2), where maximum 3A shown, with a shutdown timing of less than 1 ms. The FAULT signal shown is an indication of the fault, but software was not involved in the shutdown. See 7.7.1 and 8.3 of Attachment 2 for additional test results and test setup details.

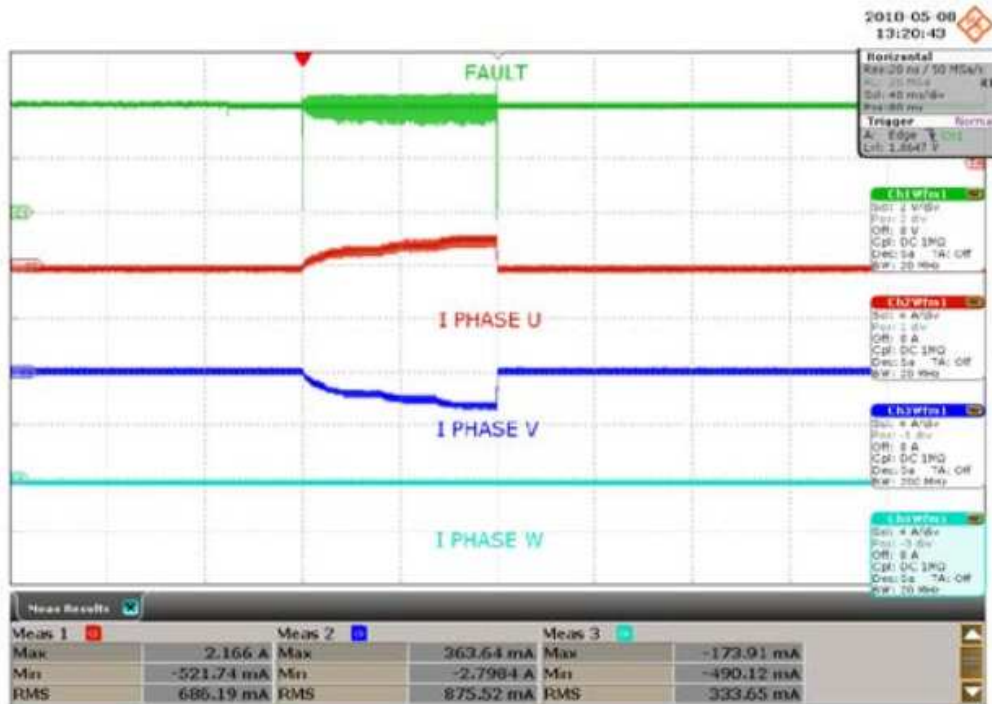


Figure 41 – Motor Stalled at Startup Condition

First: V_{FAULT} , 2 V/div.

Second: $I_{\text{PHASE U}}$, 4 A/div.

Third: $I_{\text{PHASE V}}$, 4 A/div.

Fourth: $I_{\text{PHASE W}}$, 4 A/div. 40ms/div.

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

TEST RESULT SUMMARY – Stalled when running. Timing for shutdown is shown below in Figure 43 (excerpted from Attachment 2), where maximum 3A shown. The FAULT signal shown is an indication of the fault, but software was not involved in the shutdown. See 7.7.1 and 8.3 of Attachment 2 for additional test results and test setup details.

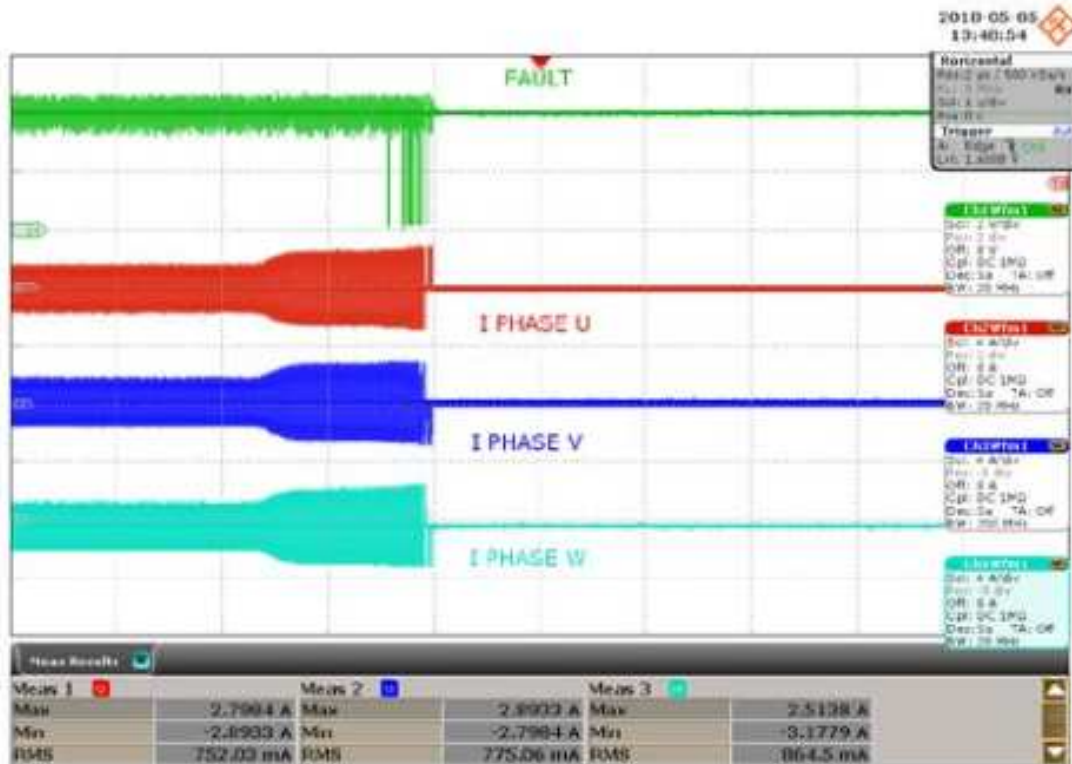


Figure 43 – Motor Stalled at Running Condition
 Multiple overcurrent flags reported
 First: V_{FAULT} , 2 V/div.
 Second: $I_{\text{PHASE U}}$, 4 A/div.
 Third: $I_{\text{PHASE V}}$, 4 A/div.
 Fourth: $I_{\text{PHASE W}}$, 4 A/div. 1s/div.

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

TEST RESULT SUMMARY – Loss of DC phase. Timing for shutdown is shown below in Figure 45 (excerpted from Attachment 2), where loss of Phase V results in overcurrent in other phases without damage. The FAULT signal shown is an indication of the fault, but software was not involved in the shutdown. See 7.7.2 and 8.3 of Attachment 2 for additional test results and test setup details.

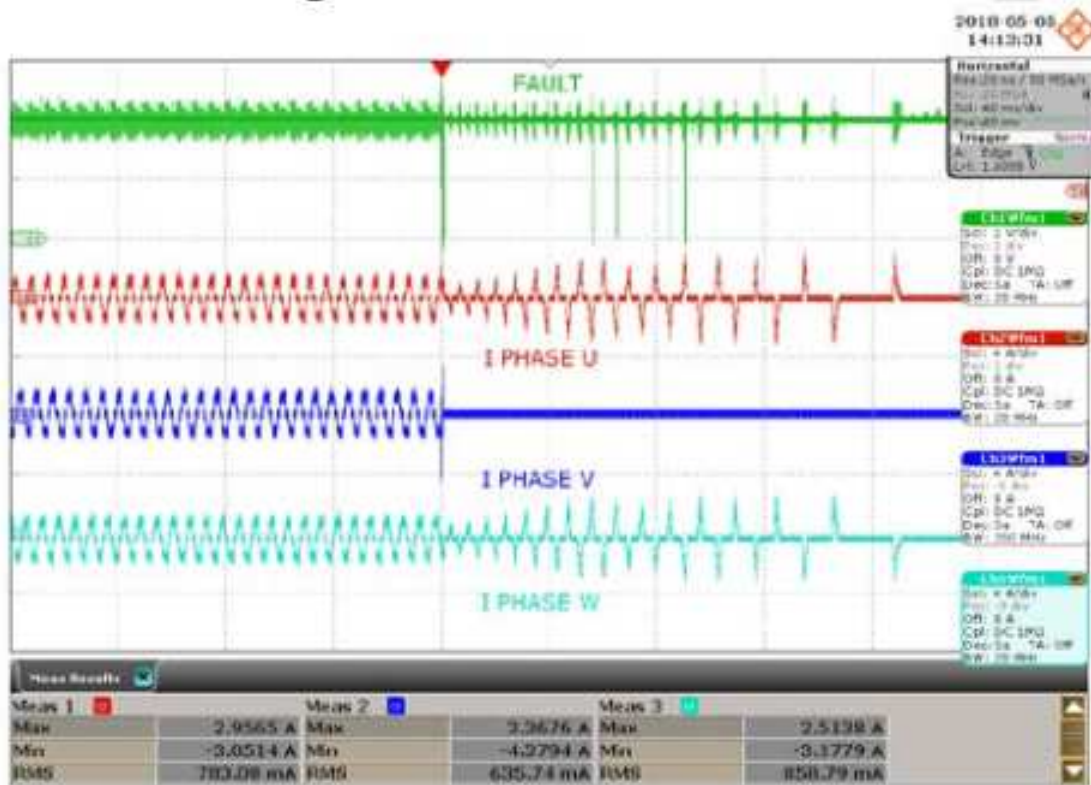


Figure 45 – Phase V winding disconnected

First: V_{FAULT} , 2 V/div.

Second: $I_{\text{PHASE U}}$, 4 A/div.

Third: $I_{\text{PHASE V}}$, 4 A/div.

Fourth: $I_{\text{PHASE W}}$, 4 A/div., 40ms/div.

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

19.9	TABLE: Abnormal operation, running overload		P
	Test voltage (V)..... :	DC340V	—
	Ambient, t1 (°C)..... :	25	—
	Ambient, t2 (°C)..... :	-	—

Temperature of winding:	R1 (Ω)	R2 (Ω)	Δ T (K)	T (°C)	Max. T (°C)
N/A – Motor not part of evaluation					

Supplementary information:

TEST RESULT SUMMARY – RXL resistor stuffed with 90kohm resistor which is setting the minimum current limit threshold to be a factor of 0.5 of the maximum peak current rating (or 1.5A = 3.0A x .5 per curve at beginning of report, for Model BRD1265C tested). Timing for shutdown is shown below in Figure 21 (excerpted from Attachment 2), where maximum motor current 1.5A shown measured. The Vfault signal shown is an indication of the fault, but software was not involved in the shutdown. See 7.6.1 and 8.3 of Attachment 2 for additional test results and test setup details.

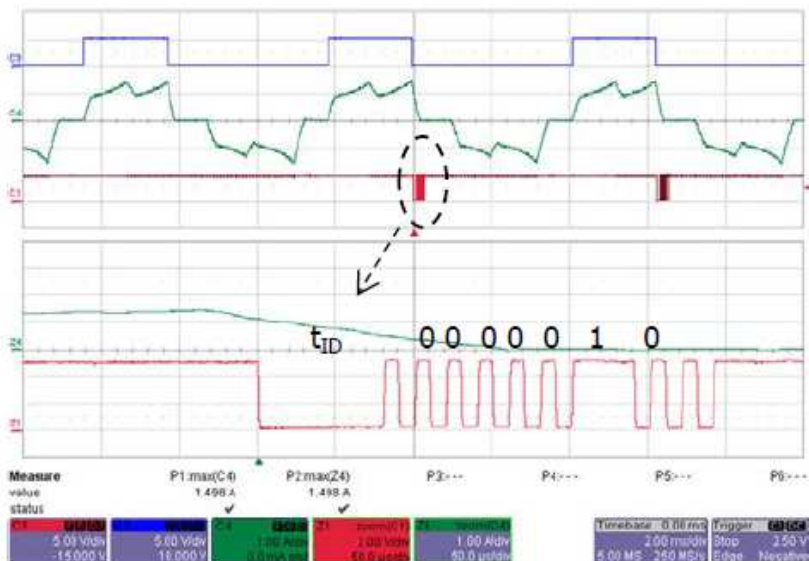


Figure 21 – Over-current –Motor Overload
 Peak motor current: 1.49 A R_{XL} : 90 kΩ
 Status update: 000 00 1 0 (LS OC)
 First: INL input, 5 V/div.
 Second: $I_{PHASE W}$, 1 A/div.
 Third: V_{FAULT} , 2 V/div., 2 ms/div.
 Zoom: 50 μs/div.

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

TEST RESULT SUMMARY – Running overload. Timing for shutdown is shown below in Figure 47 (excerpted from Attachment 2), with greater than 450W load. The V_{fault} signal shown is an indication of the fault, but software was not involved in the shutdown. See 7.7.3 and 8.3 of Attachment 2 for additional test results and test setup details.

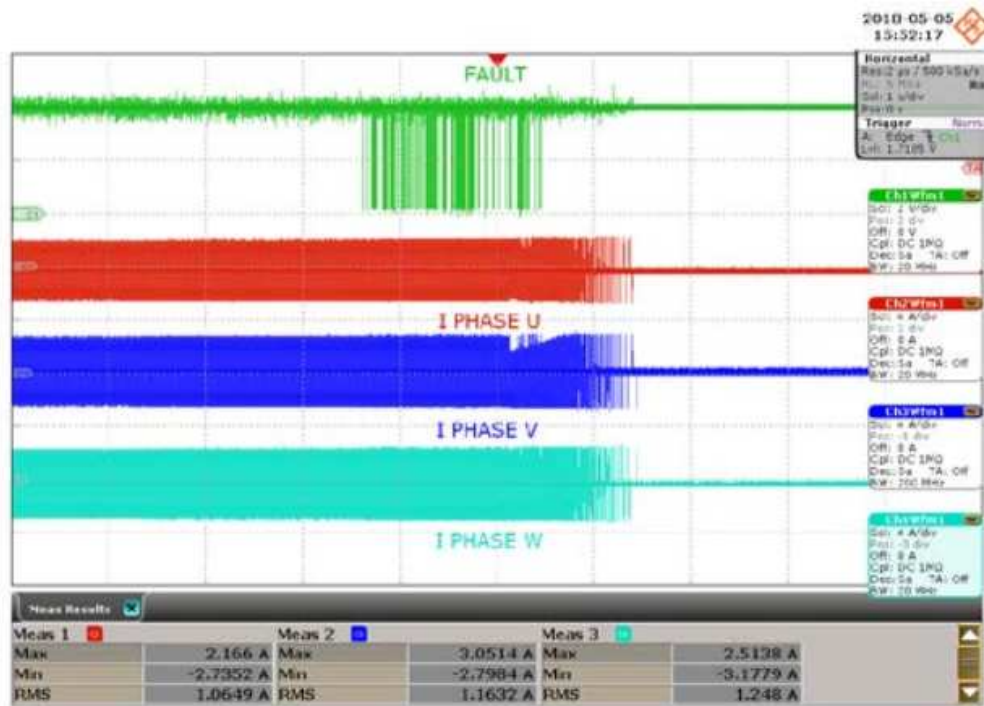


Figure 47 – Running overload test >450W

First: V_{FAULT} , 2 V/div.

Second: $I_{\text{PHASE U}}$, 4 A/div.

Third: $I_{\text{PHASE V}}$, 4 A/div.

Fourth: $I_{\text{PHASE W}}$, 4 A/div., 1s/div.

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

19.13	TABLE: Abnormal operation, temperature rises		N/A
Thermocouple locations:	Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)	
Supplementary information: No emission of molten metal or other dramatic outcome as a result of the above abnormal tests. Suitability should be considered in the end product application in this regard.			

21.1	TABLE: Impact resistance			N/A
Impacts per surface	Surface tested	Impact energy (Nm)	Comments	
Supplementary information:				

24.1	TABLE: Critical components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	
Molding Material	Hitachi Chemical	CEL-8240HF (10GK)	Epoxy molding compound, rated 130C, V-0 per third party qualification	Evaluated in product	-	
Leadframes	-	-	Metal employed for current-carrying parts are of stainless steel, plated steel, copper, silver, gold, nickel, aluminum, an alloy of the same, or an equivalent material	-	-	
FETs	-	-	Two provided (one in high and other in low side). FREDFET types	Evaluated in product	-	

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

28.1	TABLE: Threaded part torque test			N/A
Threaded part identification:	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)	

Supplementary information:

29.1	TABLE: Clearances					N/A
	Overvoltage category..... :					—
		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforced (mm)	Functional (mm)	Verdict / Remark
330	0,2* / 0,5 / 0,8**					
500	0,2* / 0,5 / 0,8**					
800	0,2* / 0,5 / 0,8**					
1 500	0,5 / 0,8** / 1,0***					
2 500	1,5 / 2,0***					
4 000	3,0 / 3,5***					
6 000	5,5 / 6,0***					
8 000	8,0 / 8,5***					
10 000	11,0 / 11,5***					

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

*) For tracks on printed circuit boards if pollution degree 1 and 2

**) For pollution degree 3

***) If the construction is affected by wear, distortion, movement of the parts or during assembly

See Creepage Table 29.2 below for additional details and dimensions, with a package drawing. Values less than 1.5mm (0.5mm) are provided between signal pins where shorts were conducted per Attachment 3 for resulting effect on motor overcurrent protection. Additional considerations should be made in the end product in regard to spacings, or conducting faults in accordance to Clause 19.11.2.

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										N/A
Working voltage (V):	Creepage distance (mm)										
	Pollution degree										
	1	2			3			Type of insulation			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	Verdict
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9		—	—	
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9	—		—	
≤50	0,36	1,2	1,7	2,4	3,0	3,4	3,8	—	—		
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4		—	—	
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4	—		—	
125	0,56	1,5	2,1	3,0	3,8	4,2	4,8	—	—		
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0		—	—	
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	—		—	
250	1,12	2,5	3,6	5,0	6,4	7,2	8,0	—	—		
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	
400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	
500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	
>630 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—		

IEC 60335-1											
Clause	Requirement + Test							Result - Remark			Verdict
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5		—	—	
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—		—	
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—		
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0		—	—	
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—		—	
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—		
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0		—	—	
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—		—	
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—		
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		—	—	
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—		—	
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—		
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0		—	—	
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—		—	
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—		
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		—	—	
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—		—	
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—		
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0		—	—	
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—		—	
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—		
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0		—	—	
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—		—	
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—		
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0		—	—	
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—		—	
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—		
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0		—	—	
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—		—	
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—		
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0		—	—	
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—		—	

IEC 60335-1											
Clause	Requirement + Test							Result - Remark			Verdict
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—		
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0		—	—	
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—		—	
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0	—	—		
Supplementary information:											
*) Material group IIIb is allowed if the working voltage does not exceed 50 V											
**) B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation											

29.2	TABLE: Creepage distances, functional insulation								N/A
Working voltage (V):	Creepage distance (mm)							Verdict / Remark	
	Pollution degree								
	1	2			3				
	Material group				Material group				
	I	II	IIIa/IIIb	I	II	IIIa/IIIb*			
≤10	0,08	0,4	0,4	0,4	1,0	1,0	1,0		
50	0,16	0,56	0,8	1,1	1,4	1,6	1,8		
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2		
250	0,42	1,0	1,4	2,0	2,5	2,8	3,2		
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0		
500	1,0	2,0	2,8	4,0	5,0	5,6	6,3		
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5		
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0		
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0		
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0		
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0		
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0		
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0		
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0		
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0		
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0		

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

30.1	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm)	2			—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Molding material, epoxy, Type CEL-8240HF (10GK)	Hitachi Chemical	184	0.3	
Supplementary information: Material was tested at a higher temperature for use in other isolating products than the intended use for this application.				

IEC 60335-1			
Clause	Requirement + Test	Result - Remark	Verdict

30.2	TABLE: Resistance to heat and fire - Glow wire tests							N/A
Object/ Part No./ Material	Manufacturer / trademark	Glow wire test (GWT); (°C)						Verdict
		550	650		750		850	
			te	ti	te	ti		
Object/ Part No./ Material	Manufacturer / trademark	Glow-wire flammability index (GWFI), °C				GW ignition temp. (GWIT), °C		Verdict
		550	650	750	850	675	775	
The test specimen passed the glow wire test (GWT) with no ignition [(te – ti) ≤ 2s] (Yes/No):								
If no, then surrounding parts passed the needle-flame test of annex E (Yes/No)								
The test specimen passed the test by virtue of most of the flaming material being withdrawn with the glow-wire (Yes/No)?								
Ignition of the specified layer placed underneath the test specimen (Yes/No)								
Supplementary information:								
- 550 °C GWT not relevant (or applicable) to parts of material classified at least HB40 or if relevant HBF								
- The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not relevant (or applicable) for attended appliances								

30.2/30.2.4	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					

