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TEST REPORT
IEC 60335-2-9
Safety of household and similar electrical appliances
Part 2: Particular requirements for grills, toasters and similar cooking appliances

Report Number. ..... :	210201198SHA-001
Date of issue ..... :	2021-04-13; Modification 2: 2023-04-07
Total number of pages ..... :	52 pages test report (4 pages of photos)
Name of Testing Laboratory preparing the Report ..... :	Intertek Testing Service Shanghai Ltd
Applicant's name ..... :	
Address ..... :	
Test specification:	
Standard ..... :	EN 60335-2-9:2003+A1:2004+A2:2006+A12:2007+ A13:2010+AC:2011+AC:2012 used in conjunction with EN 60335 1:2012+ AC:2014+A11:2014+A13:2017+A1:2019+A2:2019+ A14:2019+A15:2021 and EN 62233:2008
Test procedure ..... :	CE-LVD
Non-standard test method ..... :	EK1-AG2:2018-05
Test Report Form No. ..... :	IEC60335_2_9K
Test Report Form(s) Originator .... :	LCIE
Master TRF ..... :	Dated 2014-08

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.
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Test item description .....:	Hot-air fryer
Trade Mark .....:	--
Manufacturer.....:	.
Model/Type reference .....:	AF-001, AF-002, AF-002A, AF-005, AF-005A, AF-005-1, AF-006, AF-006A, AF-006D, AF-009, AF-009A, AF-010, AF-010A, AF-012, AF-012A, AF-015, AF-015A, AF-016, AF-016A, AF-017A, AF-001B, AF-007C, AF-022, AF-005A-1
Ratings .....:	220-240V~, 50-60Hz, Class I AF-001, AF-006, AF-006A, AF-001B, AF-007C: 1000W; AF-015, AF-015A and AF-006D: 1200W; AF-002, AF-002A and AF-022: 1300W; AF-009 and AF-009A: 1400W; AF-010, AF-010A, AF-016, AF-016A and AF-017A: 1500W; AF-005, AF-005A, AF-005-1, AF-012, AF-012A and AF-005A-1: 1700W.

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ **Testing Laboratory:**	Intertek Testing Service Shanghai Ltd	
Testing location/ address ..... :	Building No. 86, 1198 Qinzhou Road (North), Shanghai 200233, China	
☐ **Associated CB Testing Laboratory:**		
Testing location/ address ..... :	N/A	
Tested by (name, function, signature) ..... :	Charlie Chen (Engineer)	Charlie chen
Approved by (name, function, signature) .. :	Chain Zhang (Reviewer)	Chain Zhang
☐ **Testing procedure: TMP/CTF Stage 1:**		
Testing location/ address ..... :	N/A	
Tested by (name, function, signature) ..... :	N/A	
Approved by (name, function, signature) .. :	N/A	
☐ **Testing procedure: WMT/CTF Stage 2:**		
Testing location/ address ..... :	N/A	
Tested by (name + signature) ..... :	N/A	
Witnessed by (name, function, signature). :	N/A	
Approved by (name, function, signature) .. :	N/A	
☐ **Testing procedure: SMT/CTF Stage 3 or 4:**		
Testing location/ address ..... :	N/A	
Tested by (name, function, signature) ..... :	N/A	
Witnessed by (name, function, signature). :	N/A	
Approved by (name, function, signature) .. :	N/A	
Supervised by (name, function, signature) :	N/A	

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

None

Summary of testing:

From the result of our inspection and tests on the submitted samples, we conclude that they comply with the requirements of the standards.

Tests performed (name of test and test clause):	**Testing location:**
Refer to description for Modification 2 (page 7) for details.	Same as previous page.

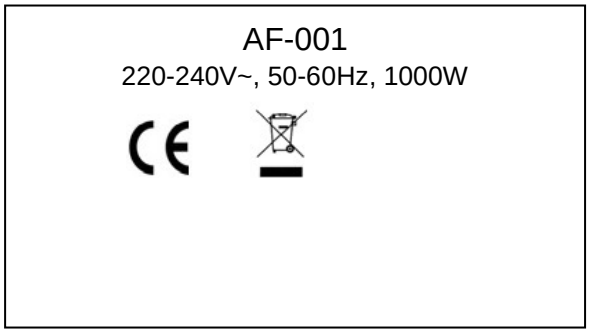
Summary of compliance with National Differences

List of countries addressed:

The national differences of EU group have been checked.

☒ **The product fulfils the requirements of EN 60335-2-9:2003+A1:04+A2:06+A12:07+A13:10+AC:11 +AC:12+EK1-AG2:2018-05 used in conjunction with EN 60335-1:2012+A11:2014+A13:2017+A1:2019 +A2:2019+A14:2019+A15:2021and EN 62233:2008**

Copy of marking plate: (Representative)



Note: When the equipment is vended to EU, then name and address of the importer or authorized representative within the EEA shall be added on the equipment.

Test item particulars ..... :	
Classification of installation and use ..... :	Portable appliance, household and indoor use
Supply Connection ..... :	Type Y attachment
..... :	
Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A
- test object does meet the requirement .....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing .....:	
Date of receipt of test item .....:	2023-03-22
Date (s) of performance of tests .....:	2023-03-22 to 2023-04-07

General remarks:

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

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

COMMISSION IMPLEMENTING DECISION (EU) 2017/1357 has been considered.

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Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty.

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

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

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

Name and address of factory (ies) ..... : .

General product information:

Models covered by this report are portable Hot-air fryers for household indoor use only. It employed thermal link or non-self-resetting thermal cut out to safeguard the appliances.

Model summary:

Model	Rating (W)	Mechanical control	Electronic control	Thermal link	Non-self-resetting thermal cut out
AF-001	1000	√		√	
AF-001B	1000	√		√	
AF-002	1300	√		√	
AF-002A	1300		√	√	
AF-005	1700	√			√
AF-005A	1700		√		√
AF-005-1	1700	√			√
AF-006	1000	√		√	
AF-006A	1000		√	√	
AF-006D	1200	√		√	
AF-009	1400	√			√
AF-009A	1400		√		√
AF-010	1500	√			√
AF-010A	1500		√		√
AF-012	1700	√			√
AF-012A	1700		√		√
AF-015	1200	√		√	
AF-015A	1200		√	√	
AF-016	1500	√			√
AF-016A	1500		√		√
AF-017A	1500		√		√
AF-007C	1000		√	√	
AF-022	1300	√			√
AF-005A-1	1700		√		√

Some model characteristic as the following description:

1. AF-001 is similar to AF-006, the difference in appearance and size. AF-001 is smaller than AF-006.
2. AF-005 is same as AF-005-1, except for appearance of knob.
3. AF-006D is same as AF-015, except for appearance of upper enclosure.
4. AF-010 is same as AF-016, except for appearance. Same way as AF-010A and AF-016A.
5. AF-016A is similar to AF-017A, the difference in appearance and control PCB.
6. AF-001B is same as AF-001, except for AF-001B use non-adjustable thermostat, AF-001B use adjustable thermostat.
7. AF-007C is similar to AF-006A, the difference in appearance, power PCB and control PCB.
8. AF-022 is same as AF-010, except for appearance and motor.
9. AF-005A is same as AF-005A-1, except for power PCB and control PCB.

Tests are performed on all models, the AF-001, AF-002A, AF-005, AF-005A, AF-006A, AF-009A, AF-012A, AF-015A, AF-016A, AF-001B, AF-007C, AF-010A, AF-017A, AF-022 and AF-005A-1 which are selected as representative for the tests and other models were also tested while mentioned, finally only the most unfavourable results were recorded.

Modification 2:
The original test report ref. No. 210201198SHA-001 dated on 2021-04-13, with amendment 1 dated on 2021-07-30, with Modification 1 dated on 2022-08-30, was modified on 2023-04-07 to include the following addition:

1. Added a new model of AF-005A-1.
2. Add alternative Interlock switch, Thermostat, Varistor.
3. Update Table 24.1.

After review, relevant tests are performed on AF-005A-1.

Clause concerned: Cl.7, Cl.10, Cl.11, Cl.13, Cl.19, Cl.22, Annex EMF need to be concerned. Other clauses which not mentioned in the report were referred to original test report.

Table concerned: Table 10.1, 11.8, 11. Z105, 13.2, 13.3, 19, 19.7, 19.13, 24.1, 29.1, 29.2, 30.1, 30.2.

IEC 60335-2-9			
Clause	Clause	Clause	Clause

7	MARKING AND INSTRUCTIONS		
7.1	Rated voltage or voltage range (V) .... :	Refer to marking	P
	Symbol for nature of supply, or..... ..... :	Refer to marking	P
	Rated frequency (Hz) .... :	Refer to marking	P
	Rated power input (W), or .... :	Refer to marking	P
	Rated current (A) .... :		N/A
	Manufacturer's or responsible vendor's name, trademark or identification mark .... :	Refer to marking	P
	Model or type reference..... ..... :	Refer to marking	P
	Symbol IEC 60417-5172, for class II appliances		N/A
	IP number, other than IPX0 .... :		N/A
	Symbol IEC 60417-5180, for class III appliances, unless		N/A
	the appliance is operated by batteries only		N/A
	Do not immerse beyond this level (IEC 60335-2-9)		N/A
	Hot surface ..... (IEC 60335-2-9)		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		N/A
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen	220-240V, 50-60Hz	P
	Different rated values marked with the values separated by an oblique stroke		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		N/A
	the power input is related to the arithmetic mean value of the rated voltage range		P
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N/A
7.6	Correct symbols used		P
	Symbol for nature of supply placed next to rated voltage		P
	Symbol for class II appliances placed unlikely to be confused with other marking		N/A

IEC 60335-2-9			
Clause	Clause	Clause	Clause

	Units of physical quantities and their symbols according to international standardized system		P
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		
	- marking of terminals exclusively for the neutral conductor (letter N)		N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)		P
	- marking not placed on removable parts		P
7.9	Marking or placing of switches which may cause a hazard		P
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means .... :	See photo documentation for details.	P
	This applies also to switches which are part of a control		P
	If figures are used, the off position indicated by the figure 0		P
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		P
7.11	Indication for direction of adjustment of controls		P
7.12	Instructions for safe use provided		P
	Details concerning precautions during user maintenance		P
	The instructions state that:		
	- 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	Replaced by EN 60335-1:2012	N/A
	- children being supervised not to play with the appliance	Replaced by EN 60335-1:2012	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		N/A
	Instructions for class III appliances state that it must only be supplied at SELV, unless		N/A
	it is a battery-operated appliance, the battery being charged outside the appliance		N/A

IEC 60335-2-9			
Clause	Clause	Clause	Clause

	Appliance with inlet and intended to be immersed for cleaning, instruction sheet including in substance: ..... (IEC 60335-2-9)		
	- remove connector before cleaning		N/A
	- dry appliance inlet before re-use		N/A
	The instructions for use for appliances intended to be used with a connector incorporating a thermostat shall state that only the appropriate connector must be used (IEC 60335-2-9)		N/A
	Instructions for appliances for outdoor use (IEC 60335-2-9):		N/A
	The appliance is suitable for outdoor use (IEC 60335-2-9)		N/A
	The supply cord should be regularly examined for signs of damage, and if the cord is damages, the appliance must not be used (IEC 60335-2-9)		N/A
	The appliance must be supplied through a residual current device (RDC) having a rated residual operating current not exceeding 30mA (IEC 60335-2-9)		N/A
	The appliance is to be connected to a socket-outlet having an earthing contact (class I) (IEC 60335-2-9)		N/A
	The temperature of accessible surfaces may be high when the appliance is operating (IEC 60335-2-9)		N/A
	If symbol IEC 60417-5041 (DB: 2002-10) is marked on appliances, the instructions shall state that the surfaces are liable to get hot during use (IEC 60335-2-9)		N/A
	The instructions shall state that the appliances are not intended to be operated by means of an external timer or separate remote-control system (IEC 60335-2-9)		P
	Instructions for use		P
	For oven: The temperature of the door or the outer surface may be high when the appliance is operating ..... (IEC 60335-2-9)		N/A
	For toaster: Bread may burn. Therefore toasters must not be used near or below curtains and other combustible materials. They must be watched .... (IEC 60335-2-9)		N/A

IEC 60335-2-9			
Clause	Clause	Clause	Clause

	For barbecue: WARNING: Charcoal or similar combustible fuels must not be used with this appliance. ..... (IEC 60335-2-9)		N/A
	For barbecue: Maximum quantity of water to be poured into the appliance ..... (IEC 60335-2-9)		N/A
	If top surface of a hotplate is of glass-ceramic or similar material and protects live parts, warning : If the surface is cracked, switch off the appliance to avoid the possibility of electric shock (IEC 60335-2-9)		N/A
	For induction hotplates: Metallic objects such as knives, forks, spoons and lids not be placed on the hotplate since they can get hot... (IEC 60335-2-9).		N/A
	For breadmakers: maximum quantities of flour and raising agent that may be used ... (IEC 60335-2-9)		N/A
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N/A
	Replacement cord instructions, type Y attachment	Type Y	P
	Replacement cord instructions, type Z attachment		N/A
7.13	Instructions and other texts in an official language	English	P
7.14	Marking clearly legible and durable, rubbing test as specified		P
	The height of the triangle used with symbol IEC 60417-5041(DB:2002-10) shall be at least 12mm (IEC 60335-2-9)		N/A
7.15	Markings on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover		P
	For portable appliances, cover can be removed or opened without a tool		N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		N/A
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		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		P

IEC 60335-2-9			
Clause	Clause	Clause	Clause

	The marking specified for hot surfaces shall be visible when the appliance is operated as in normal used (IEC 60335-2-9)		N/A
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		N/A
10	POWER INPUT AND CURRENT		
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)	P
	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		P
	Power input of induction hotplates measured separately (IEC 60335-2-9)		N/A
11	HEATING		
11.1	No excessive temperatures in normal use	(see appended table)	P
	Compliance for toasters is also checked by the test of 11. 101 (IEC 60335-2-9)		N/A
11.2	The appliance is held, placed or fixed in position as described ..... :	Tested as near to the walls as possible	P
	Radiant grills and raclette grills that are loaded from the front, rotary grills, ovens, breadmakers, cookers and hotplates are placed with their backs as near as possible to one of the walls of the test corner and away from the other wall ..... (IEC 60335-2-9)		P
11.3	Temperature rises, other than of windings, determined by thermocouples		P
	Temperature rises of windings determined by resistance method, unless		P
	the windings are non-uniform or it is difficult to make the necessary connections		N/A
	If magnetic field of an induction hotplate unduly influences the results, temperature rises can be determined using platinum resistances or equivalent means (IEC 60335-2-9)		N/A
11.4	Heating appliances operated under normal operation at 1.15 times rated power input (W) .... :	(see appended table)	P

IEC 60335-2-9			
Clause	Clause	Clause	Clause

	If the temperature rise limits are exceeded in appliances incorporating motors, transformers or electronic circuits, and if the power input is lower than the rated power input, the test is repeated with the appliance supplied at 1,06 times rated voltage ..... (IEC 60335-2-9)		N/A
11.7	Tests carried out in compliance with the paragraphs N° 1 to 11 (IEC 60335-2-9)		P
11.8	Temperature rises monitored continuously and not exceeding the values in table 3 ..... :	(see appended table)	P
	If the temperature rise of a motor winding exceeds the value of table 3, or		N/A
	if there is doubt with regard to classification of insulation,		N/A
	tests of Annex C are carried out		N/A
	Sealing compound does not flow out		P
	Protective devices do not operate, except		P
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4	For electronic control models (Electronic thermostat)	P
	For radiant grills, rotary grills, raclette grills, hotplates and cookers, instead of 65 K, the temperature rise of the wall of the test corner shall not exceed 75 K. (IEC 60335-2-9)		N/A
	When an appliance connector incorporates a thermostat, the temperature rise limit for the pins of the inlet does not apply (IEC 60335-2-9)		N/A
	The temperature rise limits of motors, transformers, components of electronic circuit and parts directly influenced by them may be exceeded when the appliance is operated at 1,15 times rated power input (IEC 60335-2-9)		N/A
	Cheese used in sandwich toasting attachments doesn't flow into places where it can give rise to a hazard, such as reducing clearances or creepage distances below the values specified in Clause 29 (IEC 60335-2-9).		N/A
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1.15 times the rated power input (W) ..... :	(see appended table)	P

IEC 60335-2-9			
Clause	Clause	Clause	Clause

	Motor-operated appliances and combined appliances supplied at 1.06 times the rated voltage (V) ..... :		N/A
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A
	grill incorporated in oven, oven or grill operated most unfavourable (IEC 60335-2-9).		N/A
13.2	For class 0, class II and class III appliances, leakage current measured by means of the circuit described in figure 4 of IEC 60990		N/A
	For other appliances, a low impedance ammeter may be used	Class I	P
	Leakage current measurements..... :	(see appended table)	P
	If earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn connected to earthed metal not exceeding 0,75 mA (IEC 60335-2-9)		N/A
	If no earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn not exceeding 0,25 mA (IEC 60335-2-9)		N/A
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to table 4..... :	(see appended table)	P
	test voltage of 1000V if earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate (IEC 60335-2-9).		N/A
	test voltage of 3000 V if no earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate (IEC 60335-2-9).		N/A
	No breakdown during the tests		P
19	ABNORMAL OPERATION		
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe ..... :	For AF-005A-1	P
	Appliances incorporating heating elements subjected to the tests of 19.2 and 19.3, and		P
	if the appliance also has a control that limit the temperature during clause 11 it is subjected to the test of 19.4, and		P

IEC 60335-2-9			
Clause	Clause	Clause	Clause

	if applicable, to the test of 19.5		P
	Appliances incorporating PTC heating elements are also subjected to the test of 19.6		N/A
	Appliances incorporating motors subjected to the tests of 19.7 to 19.10, as applicable		P
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable	For AF-005A-1	P
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		P
	Appliances incorporating voltage selector switches subjected to the test of 19.15		N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or		P
	until steady conditions are established		P
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample		P
	Tests of 19.4 and 19.5 are only applicable to: -breadmakers, contact grills, food dehydrators - ovens, roasters, hotplates, cookers, rotary grills if they incorporate a timer or if their instructions indicate a cooking operation longer than 1h (IEC 60335-2-9)		P
	Toasters are subjected to the tests 19.101 and 19.102 (IEC 60335-2-9)		N/A
	Induction hotplates are subjected to the tests 19.103 and 19.104 (IEC 60335-2-9)		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) ..... :	(see appended table)	P
	Radiant grills, raclette grills that are loaded from the front , rotary grills, ovens, hotplates and cookers are placed as near as possible to the walls of the test corner..... (IEC 60335-2-9)		N/A
	They are tested empty with lids open or closed whichever is the more unfavourable ..... (IEC 60335-2-9)	Container installed	P
	Hotplates are operated without a vessel and with the controls adjusted to the highest setting (IEC 60335-2-9)		N/A

IEC 60335-2-9			
Clause	Clause	Clause	Clause

	Induction hotplates are operated under conditions of clause 11 but with empty vessels, controls adjusted to the highest setting (IEC 60335-2-9)		N/A
	Cookers are only tested with the heating unit that results in the most unfavourable conditions, their controls adjusted to the highest setting. However ovens are operated if they do not have an indicating lamp to show when they are switched on, controls adjusted to the highest setting (IEC 60335-2-9)		N/A
19.3	Test of 19.2 repeated; test voltage (V), power input of 1.24 times rated power input (W) ..... :	(see appended table)	P
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited		P
	Air-circulating fans of food dehydrators disconnected (IEC 60335-2-9)		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	(see appended table)	P
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		P
	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		N/A
19.7	Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque, or		P
	locking moving parts of other appliances		N/A
	Locked rotor, capacitors open-circuited one at a time		N/A
	Test repeated with capacitors short-circuited one at a time, unless		N/A
	capacitor is of class P2 of IEC 60252-1		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..... :		P
	Other appliances supplied with rated voltage for a period as specified..... :		N/A
	Winding temperatures not exceeding values specified in table 8..... :	(see appended table)	P

IEC 60335-2-9			
Clause	Clause	Clause	Clause

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	For (see appended table)	P
	they comply with the conditions specified in 19.11.1		N/A
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless		P
	restarting does not result in a hazard		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	Stand-by mode	P
	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		P
	During and after each test the following is checked:		
	- the temperature of the windings do not exceed the values specified in table 8		P
	- the appliance complies with the conditions specified in 19.13		P
	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4		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:		
	- the base material of the printed circuit board withstands the test of Annex E		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		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:		
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29	No fire and no hazard.	P
	b) open circuit at the terminals of any component	For AF-005A-1: D4, D3: the appliance didn't work; C1, D2: the appliance can normal work; No hazard.	P

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Clause	Clause	Clause	Clause

	c) short circuit of capacitors, unless	For AF-005A-1: D1, D3: the appliance can normal work; No hazard.	P
	they comply with IEC 60384-14	X2	P
	d) short circuit of any two terminals of an electronic component, other than integrated circuits	For AF-005A-1: EC1, EC3: the appliance didn't work; Varistor: weak part opened (three times); No hazard.	P
	This fault condition is not applied between the two circuits of an optocoupler		N/A
	e) failure of triacs in the diode mode	No fire and no hazard.	P
	f) failure of microprocessors and integrated circuits	No fire and no hazard.	P
	g) failure of an electronic power switching device		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		N/A
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or		P
	a device that can be placed in the stand-by mode,		P
	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		P
	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		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.		N/A
	Surge protective devices disconnected, unless		P
	They incorporate spark gaps		N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4		P
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3		P

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Clause	Clause	Clause	Clause

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		P
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		P
	Earthed heating elements in class I appliances disconnected		P
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3		P
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		P
	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		N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2		P
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		P
	The appliance continues to operate normally, or		P
	requires a manual operation to restart		N/A
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9 ..... :	(see appended table)	P
	Compliance with clause 8 not impaired		P
	If the appliance can still be operated it complies with 20.2		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:		
	- basic insulation (V) ..... :	1000V/1min	P
	- supplementary insulation (V)..... :	1750V/1min	P
	- reinforced insulation (V) ..... :	3000V/1min	P

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Clause	Clause	Clause	Clause

	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	480V, 1min	P
	The appliance does not undergo a dangerous malfunction, and		P
	no failure of protective electronic circuits, if the appliance is still operable		N/A
	Appliances tested with an electronic switch in the off position, or in the stand-by mode:		
	- do not become operational, or		P
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4		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:		
	- the lid or door does not move automatically to an open position when the interlock is released, and		N/A
	- the appliance does not start after the cycle in which the interlock was released		N/A
	During the test of 19.102 any flame or smoke from the bread are ignored (IEC 60335-2-9)		N/A
	Temperature rise of the windings of induction hotplates not exceeding the values specified in 19.7 (IEC 60335-2-9)		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		P
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time		P
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited		N/A
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn		P
22	CONSTRUCTION		
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance exceeding 0,1μF, the appliance being disconnected from the supply at the instant of voltage peak		P

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Clause	Clause	Clause	Clause

	Voltage not exceeding 34 V (V)..... :	Max. 12V	P
22.6	Electrical insulation not affected by condensing water or leaking liquid		P
	Electrical insulation of Class II appliances not affected if a hose ruptures or seal leaks		N/A
	In case of doubt, test as described		N/A
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless		P
	the substance has adequate insulating properties		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:		P
	- a non-self-resetting thermal cut-out is required by the standard, and		P
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it		P
	Non-self-resetting thermal motor protectors have a trip-free action, unless		P
	they are voltage maintained		P
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely		P
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts		P
	Obvious locked position of snap-in devices used for fixing such parts		P
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing		P
	Tests as described	50N pull and push to enclosure and handle thermostat knob	P
22.12	Handles, knobs etc. fixed in a reliable manner		P
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible		P
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		N/A

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Clause	Clause	Clause	Clause
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		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		P
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance		P
	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		P
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		P
22.18	Current-carrying parts and other metal parts resistant to corrosion		P
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless		P
	material used is non-corrosive, non-hygroscopic and non-combustible		N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless		P
	impregnated		N/A
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements		P
22.22	Appliances not containing asbestos		P
22.23	Oils containing polychlorinated biphenyl (PCB) not used	No oils	P
22.24	Bare heating elements, except in class III appliances or class III constructions that do not contain live parts, adequately supported		N/A
	Heating elements constructed or supported so they are unlikely to become displaced in normal use. (IEC 60335-2-9)		N/A
	In case of rupture, the heating conductor is unlikely to come in contact with accessible metal parts		N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or		P

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Clause	Clause	Clause	Clause
	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		P
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear		P
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose		P
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		P
	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		N/A
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation		P
	Insulating material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation		P
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless		P
	the shaft is not accessible when the part is removed		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		P
	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		P

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Clause	Clause	Clause	Clause

	This requirement does not apply to handles, levers and knobs on stationary 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		N/A
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation		N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out		P
22.41	No components, other than lamps, containing mercury		P
22.44	Appliances not having an enclosure that is shaped or decorated like a toy		P
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		P
22.105	Appliances have not openings on the underside that would allow small items to penetrate and touch live parts. (IEC 60335-2-9)	No such opening	P
	Distance measured between the supporting surface and live parts through openings (IEC 60335-2-9)		N/A
	Distance requested as specified: (IEC 60335-2-9)		N/A

	ANNEX EN 62233:2008 **EMF- ELECTROMAGNETICS FIELDS**		
	The tested product also complies with the requirements of EN 62233:2008		
	Limit ……100%	Measured max.: 0,985uT	P

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Clause	Requirement + Test	Result - Remark	Verdict

10.1	TABLE: Power input deviation				P
Input deviation of/at:	**P rated (W)**	**P measured (W)**	**Δ P**	**Required Δ P**	**Remark**
AF-005A-1	1700	1602	-5,8%	-10% ~ +5%	Tested at 230V

11.8	TABLE: Heating test (for AF-005A-1)		P
	Test voltage (V).....:	2129W, 265V	—
	Ambient (°C).....:	23	—

Thermocouple locations	Max. temperature rise measured, Δ T (K)	Max. temperature rise limit, Δ T (K)
Supply cord	47	50
Relay	51	60(T-25)
Varistor	50	60(T-25)
X2 capacitor	46	75(T-25)
PCB	55	120
PCB holder	38	--
External enclosure plastic	83	--
Internal enclosure	149	--
Centre of container	195	--
Wooden support	53	65

11.8	TABLE: Heating test, resistance method (for AF-005A-1)					P
	Test voltage (V) .....:		265V			—
	Ambient, t1 (°C).....:		23			—
	Ambient, t2 (°C).....:		23			—
Temperature rise of winding	**R1 (Ω)**	**R2 (Ω)**	**Δ T (K)**	**Max. Δ T (K)**	**Insulation class**	
Motor (YJ61/300)	147,58	211,72	112	140	Class 180	

EK1-AG2 11.Z105	TABLE: Heating test (for for AF-005A-1)		P
	Test voltage (V) .....:	1851W, 247V	—
	Ambient (°C) .....:	23	—

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Thermocouple locations	Max. temperature rise measured, Δ T (K)	Max. temperature rise limit, Δ T (K)
Bare metal	--	45
Coated metal	--	55
Glass and ceramic	--	60
Plastic and plastic coating > 0,3mm	60	65

13.2	TABLE: Leakage current		P
	Heating appliances: 1.15 x rated input (W)...:	Same as Cl.11.4	—
	Motor-operated and combined appliances: 1.06 x rated voltage (V).....:	N/A	—

Leakage current between	I (Ma)	Max. allowed I (Ma)
L/N – Earthing metal parts	Max 0,16	0,75
L/N – Enclosure (with metal foil or ungrounded metal parts)	Max 0,02 peak	0,35 peak
L/N – Knob/handle	Max 0,02 peak	0,35 peak

13.3	TABLE: Dielectric strength	P

Test voltage applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)
Parts isolated with basic insulation	1000	No
Parts isolated with supplementary insulation	1750	No
Parts isolated with reinforced insulation	3000	No

19	Abnormal operation conditions	P

Operational characteristics	YES/NO	Operational conditions
Are there electronic circuits to control the appliance operation?	YES	For electronic control models: Test at 240V
Are there “off” or “stand-by” position?	YES	For electronic control models: “stand-by” Test at 240V
The unintended operation of the appliance results in dangerous malfunction?	No	--

Sub-clause	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.2	Refer to clasue19.2	No hazard	N/A	N/A	N/A	N/A	P

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Clause	Requirement + Test	Result - Remark	Verdict

19.3	Refer to clasue19.3	No hazard	N/A	N/A	N/A	N/A	P
19.4	Refer to clasue19.4	No hazard	N/A	N/A	N/A	N/A	P
19.5	Refer to clasue19.5	No hazard	N/A	N/A	N/A	N/A	P
19.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.7	Refer to clasue19.7	N/A	N/A	N/A	N/A	N/A	P
19.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.2	Refer to clasue19.11	No hazard	N/A	N/A	N/A	N/A	P
19.11.4.8	Refer to Cl.19.11.4.8	No hazard	N/A	N/A	N/A	N/A	P
19.10X	N/A	N/A	N/A	N/A	N/A	N/A	N/A

19.7	**TABLE: Abnormal operation, locked rotor/moving parts**					P
	Test voltage (V)..... :			240		—
	Ambient, t1 (°C) ..... :			23		—
	Ambient, t2 (°C) ..... :			23		—
Temperature of winding	**R1 (Ω)**	**R2 (Ω)**	**Δ T (K)**	**T (°C)**	**Max. T (°C)**	
Motor (YJ61/300)	--	--	--	158	260	
Supplementary information: 12 min 28 second. the thermal link for motor opened.						

19.13	**TABLE: Abnormal operation, temperature rises (for AF-005A-1)**		P
Thermocouple locations	**Max. temperature rise measured, Δ T (K)**		**Max. temperature rise limit, Δ T (K)**
	19.2, 19.3	**19.4**	
Supply cord	51	63	150
Test corner	57	65	150
External enclosure plastic	88	--	For Cl.30
Internal enclosure	156	--	For Cl.30
PCB support	42	--	For Cl.30
Supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

24.1	TABLE: Critical components information				P
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1])**
Plug	Yuyao Jingyi Electronics Co., Ltd.	JY03-F	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40020796
Alternative	Yuyao Jingyi Electronics Co., Ltd.	JY-03	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40010586
Alternative	Yuyao Chongyu Electric Co., Ltd.	CY-03	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40035562
Alternative	Ningbo Jiajie Electronic Co., Ltd.	JF-03	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40030700
Alternative	Ningbo Jiajie Electronic Co., Ltd.	JF-03F	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40035038
Alternative	CIXI SHANGEN CAR PARTS CO.,LTD	XM-3	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40005129
Alternative	Ningbo JinTing Nuclear Cable Co., Ltd	FY003	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40036474
Alternative	Ningbo Liansheng Wire & Cable Co., Ltd.	LS03	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40034732
Alternative	Cixi Yelei Electron Co., Ltd.	YL-03F	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40052523
Alternative	Cixi Yelei Electron Co., Ltd.	YL-03	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40052989
Alternative	NINGBO XUANHUA ELECTRIC CO. LTD	XH-03	250V~, 16A DIN 49441-R2	DIN VDE 0620-1	VDE*/ 40019691
Plug only for U.K.	Zhejiang Jinting Nuclear Cable Co., Ltd	JT006A	250V~	BS 1363-1	ASTA*/ 1120
Alternative	Ningbo Qiaopu Electric Co., Ltd.	D09, D09A	250V~	BS 1363-1	ASTA*/ 930

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Clause	Requirement + Test	Result - Remark	Verdict

Alternative	Yuyao City Dongdong Electrical Appliance Factory	Y006, Y006-A	250V~	BS 1363-1	ASTA*/ 1199
Alternative	Ningbo Jinting Nuclear Cable Co., Ltd.	FY006A	250V~	BS 1363-1	ASTA*/ 1295
Alternative	Cixi Yelei Electron Co., Ltd.	YL09	250V~	BS 1363-1	ASTA*/ 1429
Alternative	Ningbo Xuanhua Electric Appliance Co., Ltd	XH031B XH031C	250V~	BS 1363-1	ASTA*/ 1118
Remark: The rating of BS fuse-links should be employed according to the table2 of BS 1363-1:2016+A1:2018					
Swiss plug	Ningbo Qiaopu Electric Co., Ltd.	D13	250V~, 10A L+N+PE	SEV 6534-2	SEV*/ 20.0781
Alternative	Shangyu Jintao Electron Co., Ltd.	R3-10	250V~, 10A L+N+PE	SEV 6534-2	SEV*/ 21.0057
Power cord	Yuyao Chongyu Electric Co., Ltd.	H05VV-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-11	VDE*/ 40034858
Alternative	Ningbo Jiajie Electronic Co., Ltd.	H05VV-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-11	VDE*/ 40028223
Alternative	CIXI SHANGEN CAR PARTS CO.,LTD	H05VV-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-11	VDE*/ 138127
Alternative	Ningbo Liansheng Wire & Cable Co., Ltd.	H05VV-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-11	VDE*/ 40022054
Alternative	Ningbo Jinting Nuclear Cable Co., Ltd.	H05VV-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-11	VDE*/ 40033767
Alternative	Cixi Yelei Electron Co., Ltd.	H05VV-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-11	VDE*/ 40052058
Alternative	Ningbo Xuanhua Electric Co., Ltd.	H05VV-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-11	VDE*/ 40047946
Alternative	Ningbo Liansheng Wire & Cable Co., Ltd.	H05RR-F H05RN-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-21	VDE*/ 40033764

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Clause	Requirement + Test	Result - Remark	Verdict

Alternative	CIXI SHANGEN CAR PARTS CO.,LTD	H05RR-F H05RN-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-21	VDE*/ 40026384
Alternative	Ningbo Jinting Nuclear Cable Co., Ltd.	H05RR-F H05RN-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-21	VDE*/ 40032177
Alternative	Cixi Yelei Electron Co., Ltd.	H05RR-F H05RN-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-21	VDE*/ 40052013
Alternative	NINGBO XUANHUA ELECTRIC CO. LTD	H05RR-F H05RN-F	3G0,75 mm² (length≤2 m) or 3G1,0 mm²	EN 50525-2-21	VDE*/ 40036306
Timer for AF-001, AF-002, AF-005, AF-005-1, AF-006, AF-006D, AF-009, AF-010, AF-012, AF-015, AF-016, AF-001B, AF-022	Jiangsu Shalong Mechanical & Electrical Technology Co., Ltd.	SL-30B SL-30B1	250V~, 15A, 1E4, T120	EN 60730-1 EN 60730-2-7	TUV*/ R 50024942
Alternative	Jiangsu Shalong Mechanical & Electrical Technology Co., Ltd.	SL-60C SL-60C1	250V~, 15A, 1E4, T125	EN 60730-1 EN 60730-2-7	TUV*/ R 50024942
Alternative	HANGZHOU GUANZUAN ELECTRICAL APPLIANCE CO., LTD.	DKJ/1-30 DKJ/1-60	250V~, 16A, 1E4, T125	EN 60730-1 EN 60730-2-7	VDE*/ 126656
Alternative	Hangzhou Tianma Time-control Si-Tech Co., Ltd..	DKJ-Y-30 DKJ-Y-60	250V~, 16A, 1E4, T125	EN 60730-1 EN 60730-2-7	TUV*/ R 50192052
Interlock switch	Cixi Xunma Electronic Technology Co., Ltd.	KW3-0Z	250V~,16A, 1E4, T85	EN 61058-1	TUV*/ R 50192335
Alternative	Siber(China) Electric Mfg. Limited	SB1-16	250V~,16(4)A, 1E4, T105	EN 61058-1	TUV SUD*/B 093102 0004 Rev. 01

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Clause	Requirement + Test	Result - Remark	Verdict

Alternative	Zhejiang Chuangye Electronics Co., Ltd.	KW11	250V~, 16(10) A, **5E4, T125**	EN 61058-1	TUV*/ R 50199565
Alternative	Yue Qing Luster Electronics Co., Ltd.	V1	250V~, 16(4) A, 5E4, T125	EN 61058-1	DEKRA*/ 2145670.02
Alternative	Zhongshan Jufond Electric Appliance Co., Ltd.	SW315	250V~, 16(2) A, 1E5, T125	EN 61058-1	TUV*/ R 50112960
Alternative	DONGNAN ELECTRONICS CO., LTD.	KW3AT-16	250V~,16(4) A, 10E3, T125	EN 61058-1	VDE*/ 40011294
Alternative	Yueqing Tongda Wire Electric Factory	HK-14	250V~,16(3) A, 5E4, T125	EN 61058-1	VDE*/ 40027032
Alternative	**Zhejiang Yuyang Technology Co., Ltd.**	**LF-20**	**250V~, 16(10) A, 5E4, T125**	**EN 61058-1**	**TUV*/ R 50306508**
Thermostat for AF-001	WUXI RUNYE ELECTRICAL APPLIANCE CO.,LTD.	WRC200-714	250V~,16A, Tf200℃, T150	EN 60730-1 EN 60730-2-9	TUV*/ R 50294444
Alternative	Foshan City Jiulong Machine Co., Ltd.	WY200-651-21T3	250V~,16A, Tf200℃, T125	EN 60730-1 EN 60730-2-9	VDE*/ 40020065
Alternative	Zhongshan City Zhongheng Electronics Co., Ltd.	WYE-200-0116	250V~,16A, Tf200℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50139037
Alternative	Anhui Huide Electronic Technology Co., Ltd.	KST-118	250V~,16A, Tf200℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50479194
Alternative	Changzhou Thermoster Electrical Heating Appliance Co., Ltd	KST200A-01	250V~,16A, Tf200℃, T150	EN 60730-1 EN 60730-2-9	TUV SUD*/B 115324 0001 Rev. 01
Alternative	**Changzhou HDV Electrical Appliance Co., Ltd**	**KST200**	**250V~ 16A Tf200℃ T150**	**EN 60730-1 EN 60730-2-9**	**TUV SUD*/B 114136 0001 Rev. 00**

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Thermostat for AF-002	Zhongshan City Zhongheng Electronics Co., Ltd.	WYE-170-0116	250V~,16A, Tf170℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50139037
Alternative	WUXI RUNYE ELECTRICAL APPLIANCE CO.,LTD.	WRC170-714	250V~,16A, Tf170℃, T150	EN 60730-1 EN 60730-2-9	TUV*/ R 50294444
Alternative	Foshan City Jiulong Machine Co., Ltd.	WY170-651-21T3	250V~,16A, Tf170℃, T125	EN 60730-1 EN 60730-2-9	VDE*/ 40020065
Alternative	Anhui Huide Electronic Technology Co., Ltd.	KST-118	250V~,16A, Tf170℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50479194
Alternative	Changzhou Thermoster Electrical Heating Appliance Co., Ltd	KST170A-01	250V~,16A, Tf170℃, T150	EN 60730-1 EN 60730-2-9	TUV SUD*/B 115324 0001 Rev. 01
Alternative	**Changzhou HDV Electrical Appliance Co., Ltd**	**KST170**	**250V~ 16A Tf170℃ T150**	**EN 60730-1 EN 60730-2-9**	**TUV SUD*/B 114136 0001 Rev. 00**
Thermostat for AF-005, AF-005-1	WUXI RUNYE ELECTRICAL APPLIANCE CO.,LTD.	WRC185-714	250V~,16A, Tf185℃, T150	EN 60730-1 EN 60730-2-9	TUV*/ R 50294444
Alternative	Foshan City Jiulong Machine Co., Ltd.	WY185-651-21T3	250V~,16A, Tf185℃, T125	EN 60730-1 EN 60730-2-9	VDE*/ 40020065
Alternative	Zhongshan City Zhongheng Electronics Co., Ltd.	WYE-185-0116	250V~,16A, Tf185℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50139037
Alternative	Anhui Huide Electronic Technology Co., Ltd.	KST-118	250V~,16A, Tf185℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50479194
Alternative	Changzhou Thermoster Electrical Heating Appliance Co., Ltd	KST185A-01	250V~,16A, Tf185℃, T150	EN 60730-1 EN 60730-2-9	TUV SUD*/B 115324 0001 Rev. 01

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Alternative	**Changzhou HDV Electrical Appliance Co., Ltd**	**KST185**	**250V~ 16A Tf185℃ T150**	**EN 60730-1 EN 60730-2-9**	**TUV SUD*/B 114136 0001 Rev. 00**
Thermostat for AF-006, AF-006D, AF-015,	Zhongshan City Zhongheng Electronics Co., Ltd.	WYE-165-0009	250V~,16A, Tf165℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50139037
Alternative	WUXI RUNYE ELECTRICAL APPLIANCE CO.,LTD.	WRC165-714	250V~,16A, Tf165℃, T150	EN 60730-1 EN 60730-2-9	TUV*/ R 50294444
Alternative	Foshan City Jiulong Machine Co., Ltd.	WY165-651-21T3	250V~,16A, Tf165℃, T125	EN 60730-1 EN 60730-2-9	VDE*/ 40020065
Alternative	Anhui Huide Electronic Technology Co., Ltd.	KST-118	250V~,16A, Tf165℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50479194
Alternative	Changzhou Thermoster Electrical Heating Appliance Co., Ltd	KST165A-01	250V~,16A, Tf165℃, T150	EN 60730-1 EN 60730-2-9	TUV SUD*/B 115324 0001 Rev. 01
Alternative	**Changzhou HDV Electrical Appliance Co., Ltd**	**KST165**	**250V~ 16A Tf165℃ T150**	**EN 60730-1 EN 60730-2-9**	**TUV SUD*/B 114136 0001 Rev. 00**
Thermostat for AF-009	WUXI RUNYE ELECTRICAL APPLIANCE CO.,LTD.	WRC175-714	250V~,16A, Tf175℃, T150	EN 60730-1 EN 60730-2-9	TUV*/ R 50294444
Alternative	Foshan City Jiulong Machine Co., Ltd.	WY175-651-21T3	250V~,16A, Tf175℃, T125	EN 60730-1 EN 60730-2-9	VDE*/ 40020065
Alternative	Zhongshan City Zhongheng Electronics Co., Ltd.	WYE-175-0009	250V~,16A, Tf175℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50139037
Alternative	Anhui Huide Electronic Technology Co., Ltd.	KST-118	250V~,16A, Tf175℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50479194

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Alternative	Changzhou Thermoster Electrical Heating Appliance Co., Ltd	KST175A-01	250V~,16A, Tf175℃, T150	EN 60730-1 EN 60730-2-9	TUV SUD*/B 115324 0001 Rev. 01
Alternative	**Changzhou HDV Electrical Appliance Co., Ltd**	**KST175**	**250V~ 16A Tf175℃ T150**	**EN 60730-1 EN 60730-2-9**	**TUV SUD*/B 114136 0001 Rev. 00**
Thermostat for AF-010, AF-012, AF-016, AF-022	WUXI RUNYE ELECTRICAL APPLIANCE CO.,LTD.	WRC180-714	250V~,16A, Tf180℃, T150	EN 60730-1 EN 60730-2-9	TUV*/ R 50294444
Alternative	Foshan City Jiulong Machine Co., Ltd.	WY180-651-21T3	250V~,16A, Tf180℃, T125	EN 60730-1 EN 60730-2-9	VDE*/ 40020065
Alternative	Zhongshan City Zhongheng Electronics Co., Ltd.	WYE-180-0009	250V~,16A, Tf180℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50139037
Alternative	Anhui Huide Electronic Technology Co., Ltd.	KST-118	250V~,16A, Tf180℃, T125	EN 60730-1 EN 60730-2-9	TUV*/ R 50479194
Alternative	Changzhou Thermoster Electrical Heating Appliance Co., Ltd	KST180A-01	250V~,16A, Tf180℃, T150	EN 60730-1 EN 60730-2-9	TUV SUD*/B 115324 0001 Rev. 01
Alternative	**Changzhou HDV Electrical Appliance Co., Ltd**	**KST180**	**250V~ 16A Tf180℃ T150**	**EN 60730-1 EN 60730-2-9**	**TUV SUD*/B 114136 0001 Rev. 00**
Non-adjustable thermostat for AF-001B	Nanjing Shao Di Electronic Co., Ltd.	KSD302	250V~ 10A, Tf175℃, T250	EN 60730-1 EN 60730-2-9	TUV*/ R 50219800
Alternative	Ningbo Tongbao Huashuo Temp.Controller Co., Ltd	KSD301-G	250V~ 10A, Tf175℃, T280	EN 60730-1 EN 60730-2-9	TUV*/ R 50205557
Internal wire	Cixi Shuanghong Wire Co., Ltd.	H05S-K, H05SJ-K	0,5 mm^2 for indicator, 0,75-1,0 mm^2 for others, T180	EN 50525-2-41	VDE*/ 40017324

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Alternative	Cixi Jiangyuan Power Cord Co., Ltd.	H05S-K, H05SJ-K	0,5 mm^2 for indicator, 0,75-1,0 mm^2 for others, T180	EN 50525-2-41	VDE*/ 40031080
Alternative	CIXI SHUANGHONG WIRE CO LTD	3122	22-26 AWG for indicator, 16-20 AWG for others, 300VAC, 200℃ (E333296)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	CIXI JIANGYUAN ELECTRONICS CO LTD	3122	22-26 AWG for indicator, 16-20 AWG for others, 300VAC, 200℃ (E338998)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	QIFURUI ELECTRONICS CO	3122	22-26 AWG for indicator, 16-20 AWG for others, 300VAC, 200℃ (E211048)	EN 60335-2-9 EN 60335-1	Tested with appliance
Insulation of internal wire	SIN TIONG WAH ELECTRIC PRODUCTS (SHENZHEN) CO LTD	FSG-3A	VW-1 200°C (E146955)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	JIANGYIN YUANDA ELECTRICAL MATERIAL CO LTD	QFR-SF	VW-1 200°C (E255609)	EN 60335-2-9 EN 60335-1	Tested with appliance
Motor for AF-001, AF-006, AF-006A, AF-006D, AF-015, AF-015A, AF-001B, AF-007C, AF-022	Shenzhen Zhaoli Motor Ltd.	YJ61/16	220-240V~, 50/60 Hz, Class 180	EN 60335-2-9 EN 60335-1	Tested with appliance
Motor for AF-005, AF-005A, AF-005-1, **AF-005A-1**	Shenzhen Zhaoli Motor Ltd.	YJ61/300	220-240V~, 50/60 Hz, Class 180	EN 60335-2-9 EN 60335-1	Tested with appliance

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Motor for AF-002, AF-002A, AF-009, AF-009A, AF-010, AF-010A, AF-012, AF-012A, AF-016, AF-016A, AF-017A	Shenzhen Zhaoli Motor Ltd.	YJ61/200	220-240V~, 50/60 Hz, Class 180	EN 60335-2-9 EN 60335-1	Tested with appliance
Thermal link for motor	Zhangzhou Aupo Electronics Co.,Ltd.	A8-F	250V~, 2A, 150℃	DIN EN 60691	VDE*/ 40008720
Alternative	Xiamen SET Electronics co., Ltd.	SET K7	250V~, 2A, 150℃	DIN EN 60691	VDE*/ 40017055
Winding for motor	Guandong Wellkey Electric Material Co., Ltd.	QZY-2/180	Class 180 (E211138)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	ZHEJIANG HONGBO TECHNOLOGY CO LTD	QZY-x/180	Class 180 (E221719)	EN 60335-2-9 EN 60335-1	Tested with appliance
Bobbin for motor	E I DUPONT DE NEMOURS & CO INC	PET	FR530 (E69939)	EN 60335-2-9 EN 60335-1	Tested with appliance
Insulating tape for motor	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	69(a)	200°C (E17385)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	XINFENG GHILLIE ELECTRICAL MATERIALS CO LTD	JL-B308	200°C (E326305)	EN 60335-2-9 EN 60335-1	Tested with appliance
Heating element for AF-001, AF-001B, AF-007C	Ningbo Haishu Junlong Electric Appliance Co., Ltd.	AF-001-B07	220-240V~,1000W	EN 60335-2-9 EN 60335-1	Tested with appliance
Heating element for AF-002, AF-002A	Ningbo Haishu Junlong Electric Appliance Co., Ltd.	AF-002-B01	220-240V~,1300W	EN 60335-2-9 EN 60335-1	Tested with appliance
Heating element for AF-005, AF-005A, AF-005-1, **AF-005A-1**	Ningbo Haishu Junlong Electric Appliance Co., Ltd.	AF-003-402	220-240V~,1700W	EN 60335-2-9 EN 60335-1	Tested with appliance
Heating element for AF-006, AF-006A	Ningbo Haishu Junlong Electric Appliance Co., Ltd.	LOH AF-006-B11	220-240V~, 1000W	EN 60335-2-9 EN 60335-1	Tested with appliance

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Heating element for AF-006D, AF-015, AF-015A	Ningbo Haishu Junlong Electric Appliance Co., Ltd.	AF-006-B18	220-240V~,1200W	EN 60335-2-9 EN 60335-1	Tested with appliance
Heating element for AF-009, AF-009A	Ningbo Haishu Junlong Electric Appliance Co., Ltd.	AF-009-B05	220-240V~, 1400W	EN 60335-2-9 EN 60335-1	Tested with appliance
Heating element for AF-010, AF-010A, AF-016, AF-016A, AF-017A	Ningbo Haishu Junlong Electric Appliance Co., Ltd.	AF-008-B04-1	220-240V~, 1500W	EN 60335-2-9 EN 60335-1	Tested with appliance
Heating element for AF-012, AF-012A	Ningbo Haishu Junlong Electric Appliance Co., Ltd.	AF-012-B05	220-240V~, 1700W	EN 60335-2-9 EN 60335-1	Tested with appliance
Heating element for AF-022	Ningbo Haishu Junlong Electric Appliance Co., Ltd.	AF-022-B01	220-240V~, 1300W	EN 60335-2-9 EN 60335-1	Tested with appliance
Wire connector	Heavy Power Co., Ltd.	CE1, CE2, CE5	300V,105°C (E113650)	EN 60335-2-9 EN 60335-1	Tested with appliance
Thermal link for AF-001, AF-006, AF-006A, AF-006D, AF-015, AF-015A, AF-001B, AF-007C, AF-022	Dongguan Better Electronics Technology Co., Ltd.	BTT184C	250V~,10A, Tf184°C	DIN EN 60691	VDE*/ 40041299
Alternative	Shanghai Xinyuan Electronic Co., Ltd.	RY182	250V~,10A, Tf184°C	DIN EN 60691	TUV*/ R 50056552
Alternative	Shanghai Xinyuan Electronic Co., Ltd.	RY184	250V~,10A, Tf184°C	DIN EN 60691	TUV*/ R 50156808
Alternative	SCHOTT Japan Corporation	SF184R0, SF184R1	250V~,10A, Tf184°C	DIN EN 60691	VDE*/ 40035880
Alternative	Threm-O-Disc Europe B.V.	G4A00184C	250V~,10A, Tf184°C	DIN EN 60691	VDE*/ 40017228
Alternative	Shenzhen Baisheng Electrical Co., Ltd.	H4Axx184C	250V~,10A, Tf184°C	DIN EN 60691	VDE*/ 40022386
Alternative	Jiangsu Changsheng Electric Appliance Co., Ltd.	CSRY01 184°C	250V~,10A, Tf184°C	DIN EN 60691	TUV*/ R 50208592

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Alternative	Jiangyin Zhi – Xiang Electronic Technology Ltd.	RY185	250V~,10A, Tf184°C	DIN EN 60691	TUV*/ R 50156815
Alternative	Zhe Jiang aiyisai Electronic Technology LTD	RYD184	250V~,10A, Tf184°C	DIN EN 60691	TUV*/ R 50141010
Thermal link for AF-002, AF-002A	Shanghai Xinyuan Electronic Co., Ltd.	RY172	250V~,10A, Tf172°C	DIN EN 60691	TUV*/ R 50056552
Alternative	Zhe Jiang aiyisai Electronic Technology LTD	RYD172	250V~,10A, Tf172°C	DIN EN 60691	TUV*/ R 50141010
Alternative	Dongguan Better Electronics Technology Co., Ltd.	BTT172C	250V~,10A, Tf172°C	DIN EN 60691	VDE*/ 40041299
Alternative	Jiangyin Zhi – Xiang Electronic Technology Ltd.	RY169	250V~,10A, Tf172°C	DIN EN 60691	TUV*/ R 50156815
Alternative	Shenzhen Baisheng Electrical Co., Ltd.	H4Axx172C	250V~,10A, Tf172°C	DIN EN 60691	VDE*/ 40022386
Alternative	Threm-O-Disc Europe B.V.	G4A00172C	250V~,10A, Tf172°C	DIN EN 60691	VDE*/ 40017228
Alternative	Jiangsu Changsheng Electric Appliance Co., Ltd.	CSRY01 172°C	250V~,10A, Tf172°C	DIN EN 60691	TUV*/ R 50208592
Alternative	SCHOTT Japan Corporation	SF172R0, SF172R1	250V~,10A, Tf172°C	DIN EN 60691	VDE*/ 40035880
Insulation of thermal link	SIN TIONG WAH ELECTRIC PRODUCTS (SHENZHEN) CO LTD	FSG-3A	VW-1 200°C (E146955)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	JIANGYIN YUANDA ELECTRICAL MATERIAL CO LTD	QFR-SF	VW-1 200°C (E255609)	EN 60335-2-9 EN 60335-1	Tested with appliance
Non-self-resetting thermal cut out for AF-009, AF-009A	Ningbo Tongbao Huashuo Temp. Controller Co., Ltd.	KSD301-R-G	AC 250V, 10A, Tf165℃, T280	EN 60730-1 EN 60730-2-9	TUV*/ R 50205557

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Non-self-resetting thermal cut out for AF-010, AF-010A, AF-012, AF-012A, AF-016, AF-016A, AF-017A, AF-005, AF-005-1, AF-005A, **AF-005A-1**	Ningbo Tongbao Huashuo Temp. Controller Co., Ltd.	KSD301-R-G	AC 250V, 10A, Tf170℃, T280	EN 60730-1 EN 60730-2-9	TUV*/ R 50205557
Heat-shrinkable tube	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR-H	600V, 125°C, VW-1 (E203950)	EN 60335-2-9 EN 60335-1	Tested with appliance
PCB for AF-002A, AF-005A, AF-006A, AF-009A, AF-010A, AF-012A, AF-015A, AF-016A, AF-017A, AF-007C, **AF-005A-1**	ZHEJIANG LEUCHTEK TECHNOLOGY CO LTD	PFR-4	Min thickness: 1,6mm, V-0, 130℃ (E199273)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	KINGBOARD LAMINATES HOLDINGS LTD	KB-5150	Min thickness: 1,6mm, V-0, 130℃ (E123995)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	XIAMEN TOPSUN ELECTRONIC TECHNOLOGY CO LTD	TS-002	Min thickness: 1,6mm, V-0, 130℃ (E252242)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	LEUCHTEK ELECTRONICS (ZHEJIANG) CO LTD	PCEM-1	Min thickness: 1,6mm, V-0, 130℃ (E199273)	EN 60335-2-9 EN 60335-1	Tested with appliance
X2 capacitor for AF-002A, AF-005A, AF-006A, AF-009A, AF-010A, AF-015A, AF-016A, AF-017A, AF-007C, **AF-005A-1**	Dain Electronic Co., Ltd.	MPX	275V~, 0,1uF, 40/110/21/C	EN 60384-14	VDE*/ 40018798
Alternative	Dain Electronic Co., Ltd.	MEX	275V~, 0,1uF, 40/100/21/C	EN 60384-14	VDE*/ 40018798

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Alternative	Rugao Shuang cheng Electronic Co., Ltd.	MKP	275V~, 0,1uF, 40/100/21/C	EN 60384-14	VDE*/ 40025673
Alternative	Shaoyang Shirong Electronic Co., Ltd.	MKP	275V~, 0,1uF, 40/100/21/C	EN 60384-14	TUV*/ HN 69262154
Alternative	Tenta Electric Industrial Co. Ltd.	MEX	275V~, 0,1uF, 40/100/21/B	EN 60384-14	VDE*/ 119119
Alternative	Dain Electronic Co., Ltd.	MEX	275V~, 0,1uF, 40/110/21/C	EN 60384-14	VDE*/ 40018798
X2 capacitor for AF-012A	Dain Electronic Co., Ltd.	MPX	275V~, 0,22uF, 40/110/21/C	EN 60384-14	VDE*/ 40018798
Alternative	Dain Electronic Co., Ltd.	MEX	275V~, 0,22uF, 40/100/21/C	EN 60384-14	VDE*/ 40018798
Alternative	Tenta Electric Industrial Co. Ltd.	MEX	275V~, 0,22uF, 40/100/21/B	EN 60384-14	VDE*/ 119119
X2 capacitor for AF-012A of alternative power PCB	Dain Electronic Co., Ltd.	MPX	275V~, 0,1uF, 40/110/21/C	EN 60384-14	VDE*/ 40018798
Alternative	Dain Electronic Co., Ltd.	MEX	275V~, 0,1uF, 40/100/21/C	EN 60384-14	VDE*/ 40018798
Alternative	Rugao Shuang cheng Electronic Co., Ltd.	MKP	275V~, 0,1uF, 40/100/21/C	EN 60384-14	VDE*/ 40025673
Alternative	Shaoyang Shirong Electronic Co., Ltd.	MKP	275V~, 0,1uF, 40/100/21/C	EN 60384-14	TUV*/ HN 69262154
Alternative	Tenta Electric Industrial Co. Ltd.	MEX	275V~, 0,1uF, 40/100/21/B	EN 60384-14	VDE*/ 119119
Relay for AF-002A, AF-006A, AF-009A, AF-010A, AF-012A, AF-015A, AF-016A, AF-017A, AF-007C, AF-005A, **AF-005A-1**	Ningbo Yong Wei Electronics Co., Ltd.	Y3F-105DM	250V~, 10A DC5V, T105, 1E4	EN 61810-1 Clause 17of IEC/EN 60730-1	TUV*/ R 50369779
Alternative	Ningbo Lishun Relay Co.,Ltd.	LSS-T73	250V~, 12A, T85, DC5V , 8E4	EN 61810-1 Clause 17of IEC/EN 60730-1	TUV*/ R 50131151

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Alternative	Donghai County Tongling Electrical Appliance Co., Ltd.	JQC-3FF-S-H	250V~, 10A, T85, DC5V, 5E4	EN 61810-1 Clause 17of IEC/EN 60730-1	TUV*/ R 50316150
Alternative	YUYAO HUI LONG CANG RELAYS MFG FACTORY	973-5VDC-SL-A	250V~, 16A, DC5V, T85, 1E4	EN 61810-1 Clause 17of IEC/EN 60730-1	TUV*/ R 50156096
Alternative	DONGGUAN YONGNENG ELECTRONICS CO ., LTD	YX202-S-105DM	250V~, 10A, DC5V, T85, 2E4	EN 61810-1 Clause 17of IEC/EN 60730-1	TUV*/ R 50106730
Alternative	DONGGUAN YONGNENG ELECTRONICS CO ., LTD	YX305-S-105DM	250V~, 10A, DC5V, T105, 2E4	EN 61810-1 Clause 17of IEC/EN 60730-1	TUV*/ R 50390979
Alternative	SHENZHEN YUANZE ELECTRIC CO., LTD	Y3F-SS-105DM	250V~, 10A, DC5V, T105, 1E4	EN 61810-1 Clause 17of IEC/EN 60730-1	TUV*/ R 50197243
Alternative	ANHUI MINGGUANG LIFE ELECTRONIC CO., LTD.	BRD-SS-105LM	250V~, 12A, DC5V, T85, 1E4	EN 61810-1 Clause 17of IEC/EN 60730-1	TUV*/ R 50183595
Alternative	ANHUI MINGGUANG LIFE ELECTRONIC CO., LTD.	BRF-SS-105DM	250V~, 12A, DC5V, T85, 1E4	EN 61810-1 Clause 17of IEC/EN 60730-1	TUV*/ R 50208738
Varistor for AF-002A, AF-005A, AF-006A, AF-009A, AF-010A, AF-015A, AF-016A, AF-017A, AF-007C, AF-012A, **AF-005A-1**	Cerglass MFG Inc	07D471K	AC 2500V, 40/125/21	EN 61051-1	VDE*/ 40028836
Alternative	Centra Science Corp.	07D471K	AC 2500V, 40/085/56	EN 61051-1	VDE*/ 40008220
Alternative	**Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Ltd**	**07D471K**	**AC 2500V, 40/125/21**	**EN 61051-1**	**VDE*/ 40023049**

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NTC resistor for AF-002A, AF-005A, AF-006A, AF-009A, AF-010A, AF-012A, AF-015A, AF-016A, AF-017A, AF-007C, **AF-005A-1**	SHENZHEN AMPRON SENSITIVE COMPONENTS CO LTD	MF58	Resistance at 25°C (100k ohm) (E243011)	EN 60335-2-9 EN 60335-1	Tested with appliance
Internal wire for NTC	FOSHAN CITY ZHENG GUAN FLUORPLASTICS WIRE FACTORY	10362	24AWG, 600VAC, 250°C (E307535)	EN 60335-2-9 EN 60335-1	Tested with appliance
Signal wire for connect PCB	YUEQING BOYUAN ELECTRONIC WIRE & CABLE CO LTD	2468	26 AWG, 300VAC 80°C (E203561)	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	Zhejiang Jiezhu Wire & Cable Co Ltd	2468	26 AWG, 300VAC 80°C (E480750)	EN 60335-2-9 EN 60335-1	Tested with appliance
Fuse for AF-007C	Dongguan Chevron Electronic Technology Co., Ltd.	SET	AC 250V, 2A	DIN EN 60127-1 DIN EN 60127-3	VDE*/ 40038565
Alternative	Shanghai Fullness Electrical Co., Ltd.	TSP	AC 250V, 2A	DIN EN 60127-1 DIN EN 60127-3	TUV*/ R 50315914
Enclosure	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	PP	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance
Top cover, Knob, Handle cover	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	ABS	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance
Handle	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	PA66	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict

Indicator cover	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	AS	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	PC	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance
Internal plastic	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	PBT	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance
Alternative	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	PA66	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance
Air outlet	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	PBT	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1 1	Tested with appliance
Alternative	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	PA66	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance
LCD cover	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	PC	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance
PCB holder	Ningbo Jufa Electric Appliance Co., Ltd. (Ningbo Bees Electric Appliance Co., Ltd.)	PC	Min thickness: 2,0 mm	EN 60335-2-9 EN 60335-1	Tested with appliance

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict

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

29.1	TABLE: Clearances		P
	Overvoltage category .... :	II	—

		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**					N/A
500	0,2* / 0,5 / 0,8**					N/A
800	0,2* / 0,5 / 0,8**					N/A
1 500	0,5 / 0,8** / 1,0***					N/A
2 500	**1,5 / 2,0*** **	X	X		X	P
4 000	**3,0 / 3,5*** **			X		P
6 000	5,5 / 6,0***					N/A
8 000	8,0 / 8,5***					N/A
10 000	11,0 / 11,5***					N/A

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**

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
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		—	—	N/A
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9	—		—	N/A
≤50	0,36	1,2	1,7	2,4	3,0	3,4	3,8	—	—		N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4		—	—	N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4	—		—	N/A

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict

125	0,56	1,5	2,1	3,0	3,8	4,2	4,8	—	—		N/A
250	**0,56**	1,25	1,8	2,5	3,2	3,6	**4,0**	X	—	—	P
250	0,56	1,25	1,8	2,5	3,2	3,6	**4,0**	—	X	—	P
250	1,12	2,5	3,6	5,0	6,4	7,2	**8,0**	—	—	X	P
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	N/A
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	N/A
400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	N/A
500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	N/A
>630 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—		N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5		—	—	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—		—	N/A
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—		N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0		—	—	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—		—	N/A
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—		N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0		—	—	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—		—	N/A
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—		N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		—	—	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—		—	N/A
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—		N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0		—	—	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—		—	N/A
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—		N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		—	—	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—		—	N/A
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—		N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0		—	—	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—		—	N/A
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—		N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0		—	—	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—		—	N/A
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—		N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0		—	—	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—		—	N/A
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—		N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0		—	—	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—		—	N/A
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—		N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0		—	—	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—		—	N/A
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—		N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0		—	—	N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—		—	N/A
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0	—	—		N/A

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							P
Working voltage (V)	**Creepage distance (mm) Pollution degree**							
	1	**2**			**3**			
		Material group			**Material group**			
		I	**II**	**IIIa/IIIb**	**I**	**II**	**IIIa/IIIb***	**Verdict / Remark**
≤10	0,08	0,4	0,4	0,4	1,0	1,0	1,0	N/A
50	0,16	0,56	0,8	1,1	1,4	1,6	1,8	N/A
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	N/A
250	0,42	1,0	1,4	2,0	2,5	2,8	**3,2**	P
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0	N/A
500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	N/A

Supplementary information:
***) Material group IIIb is allowed if the working voltage does not exceed 50 V**

30.1	**TABLE: Ball Pressure Test of Thermoplastics**		**P**
Allowed impression diameter (mm) .....:		2,0mm	—
Object/ Part No./ Material	**Manufacturer/ trademark**	**Test temperature (°C)**	**Impression diameter (mm)**
External enclosure plastic	Refer to table 24.1	123	1,4
Internal enclosure	Refer to table 24.1	189	1,7
PCB	Refer to table 24.1	125	0,5
PCB holder	Refer to table 24.1	125	1,2
Supplementary information:			

30.2	**TABLE: Resistance to heat and fire - Glow wire tests**						**P**
Object/ Part No./ Material	**Manufacturer / trademark**	**Glow wire test (GWT); (°C)**					**Verdict**
		550	**650**		**750**		**850**
			te	**ti**	**te**	**ti**	
External enclosure plastic	Refer to table 24.1					NI	X	P
Internal enclosure	Refer to table 24.1					NI	X	P

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict

Interlock switch	Refer to table 24.1					NI	X	P
Thermostat	Refer to table 24.1					NI	X	P
PCB holder	Refer to table 24.1					NI	X	P

Object/ Part No./ Material	**Manufacturer / trademark**	**Glow-wire flammability index (GWFI), °C**				**GW ignition temp. (GWIT), °C**		**Verdict**
		550	**650**	**750**	**850**	**675**	**775**	
N/A								N/A

The test specimen passed the glow wire test (GWT) with no ignition [($t_e - t_i$) ≤ 2s] (Yes/No):	Yes
If no, then surrounding parts passed the needle-flame test of annex E (Yes/No) .....:	N/A
The test specimen passed the test by virtue of most of the flaming material being withdrawn with the glow-wire (Yes/No)?.....:	Yes
Ignition of the specified layer placed underneath the test specimen (Yes/No) .....:	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)**				**P**
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**
PCB	Refer to table 24.1	30	No	<15	P

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

Appendix – Photographs

Photo 1.

Description: Overall view of AF-005A-1

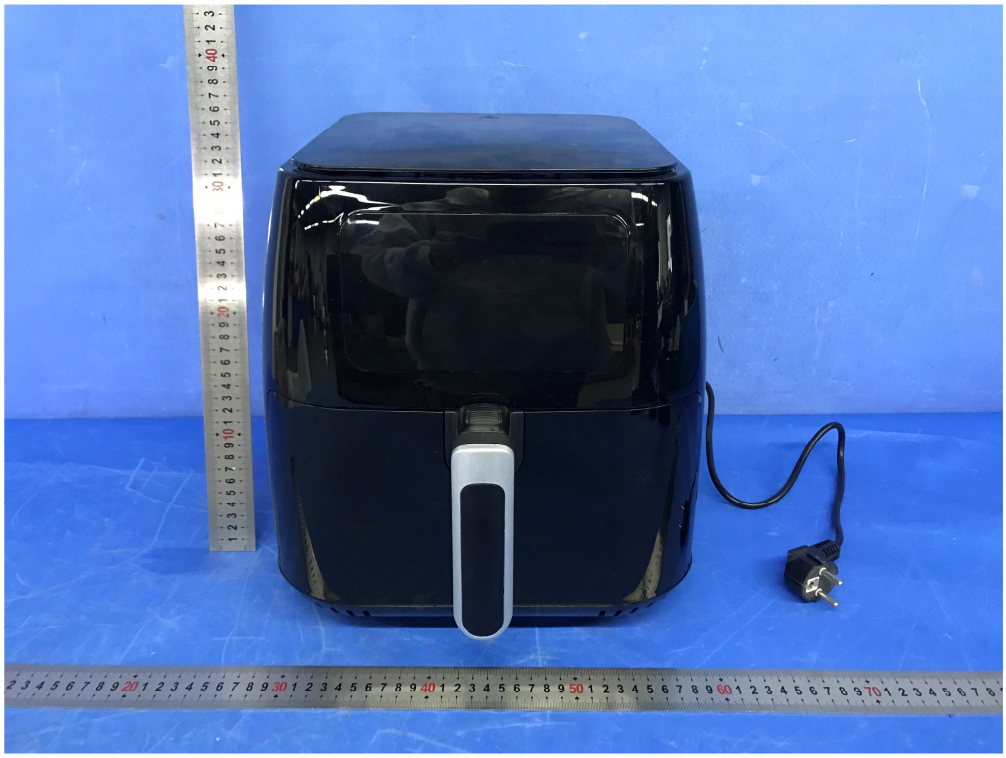
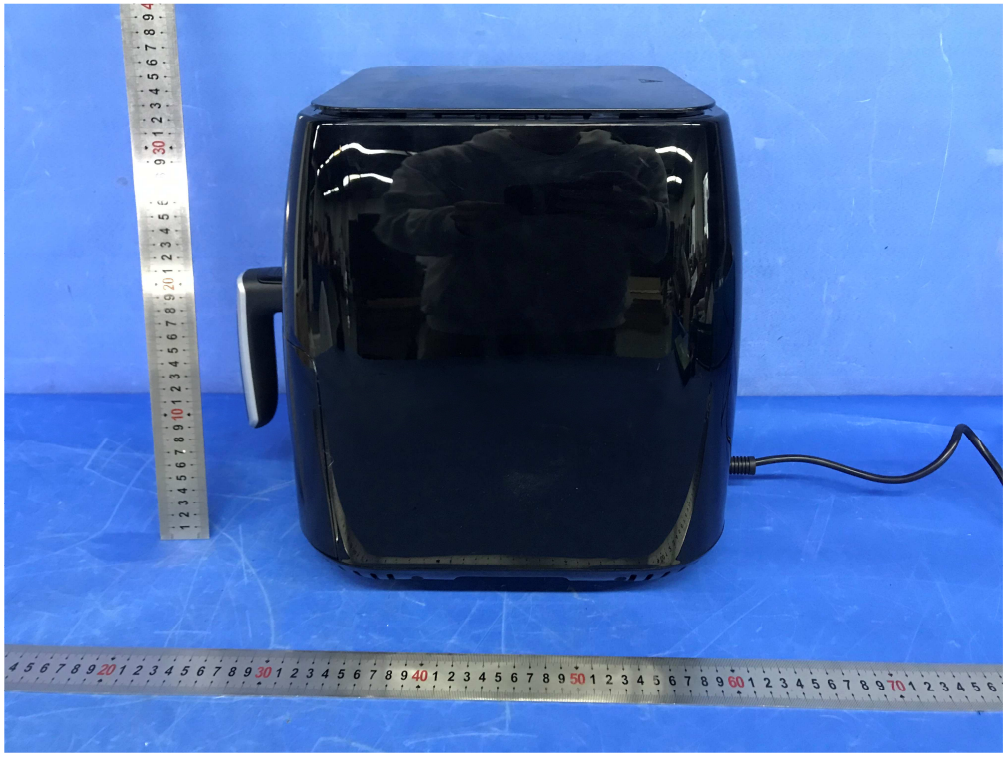


Photo 2.

Description: Overall view of AF-005A-1



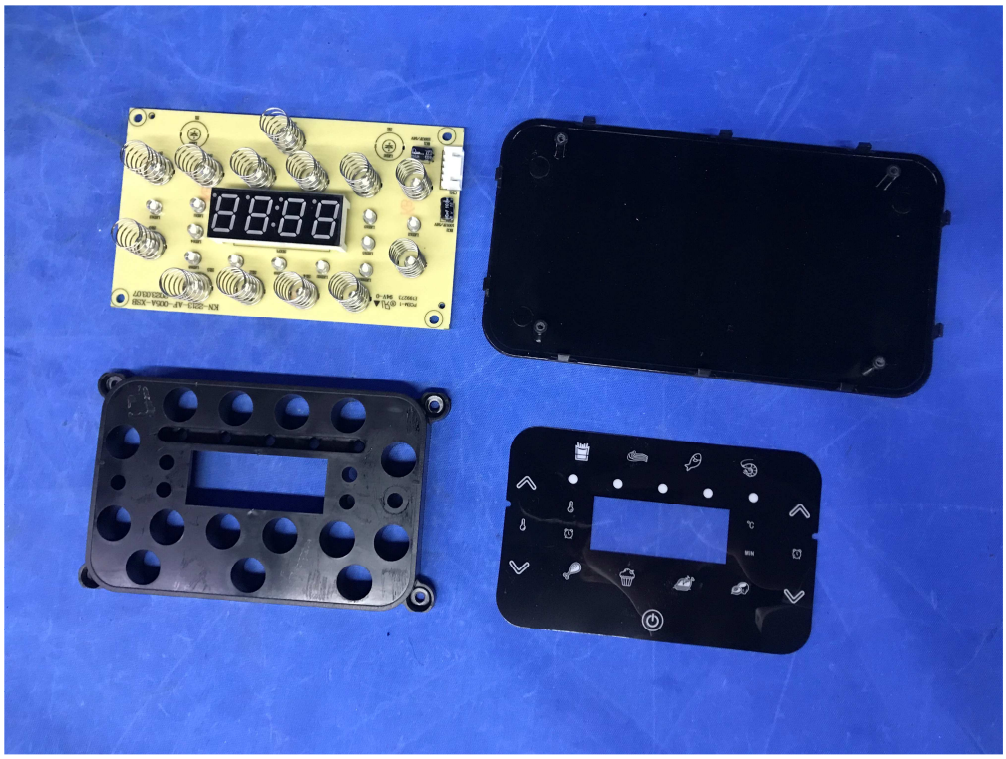
Appendix – Photographs

Photo 3.

Description: Internal view of AF-005A-1

Photo 4.

Description: Internal view of AF-005A-1



Appendix – Photographs

Photo 5.

Description: Control PCB Internal view of AF-005A-1

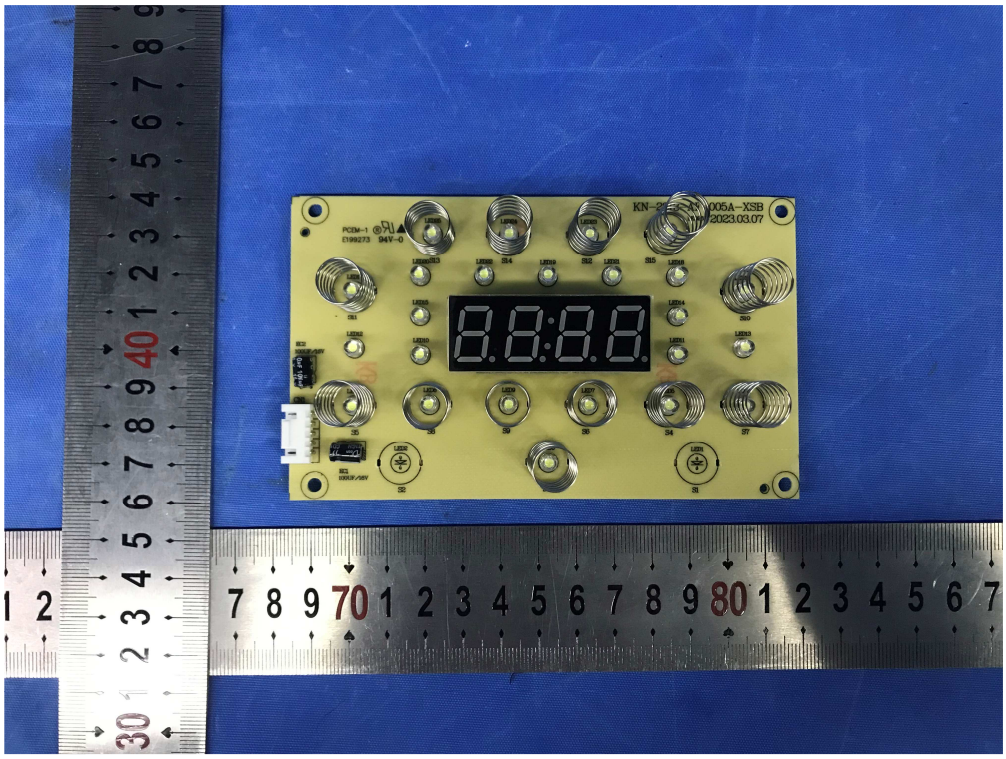
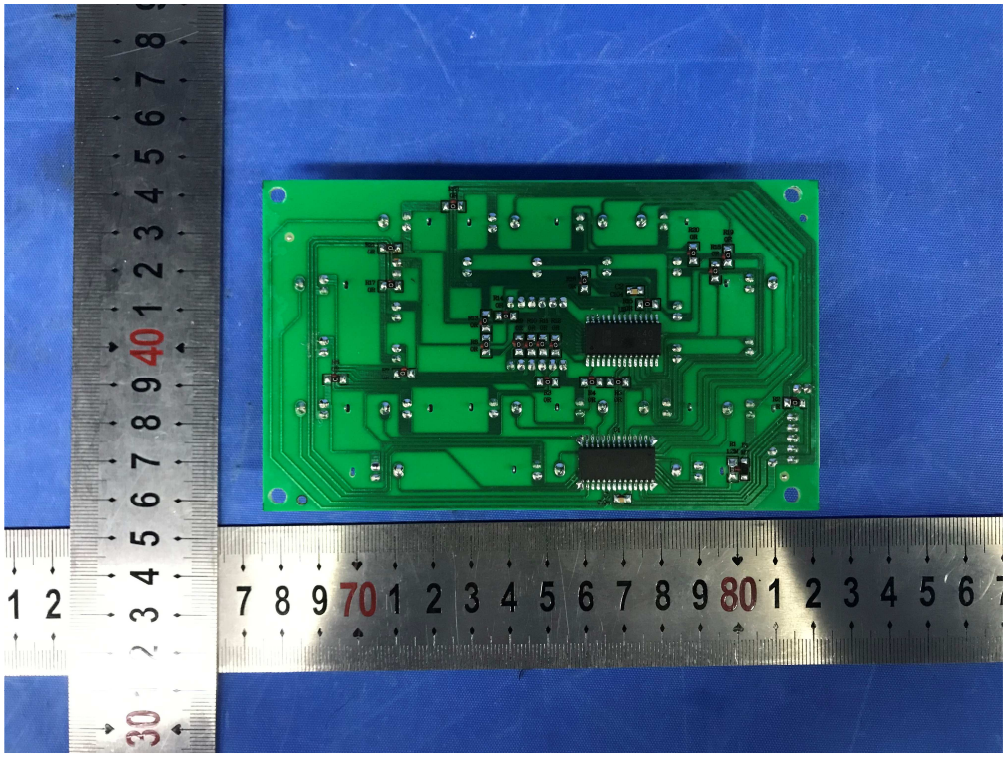


Photo 6.

Description: Control PCB view of AF-005A-1



Appendix – Photographs

Photo 7.

Description: Power PCB view of AF-005A-1

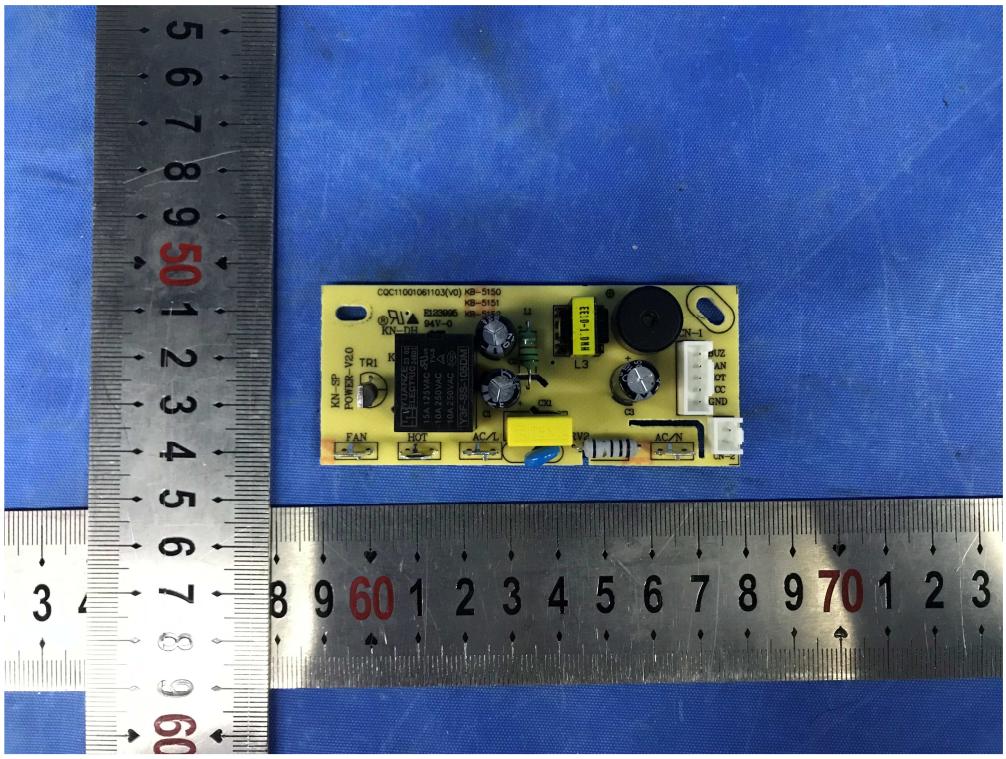


Photo 8.

Description: Power PCB view of AF-005A-1