

# **INTERNATIONAL CERTIFICATION TEST REPORT**

**Application No.....: I2016GC8415-00366**

**Report Ref. No.....: 2016GC-TC00601-0133**

**Name of product.....: split-type air conditioner**

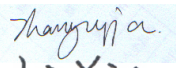
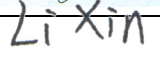
**Model..... : MSTABE-18CRN1-NC5  
MSTABE-18HRN1-NC5  
MSTABE-22CRN1-NC5  
MSTABE-22HRN1-NC5**

**Name of Laboratory: CHINA TESTING & INSPECTION  
INSTITUTE FOR HOUSEHOLD  
ELECTRIC APPLIANCES(CTIHEA)**




**CHINA QUALITY CERTIFICATION CENTRE**


<b>TEST REPORT</b> <b>IEC 60335-2-40</b> <b>Safety of household and similar electrical appliances</b> <b>Part 2-40: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers</b>	
<b>Report Number.</b> ..... 2016GC-TC00601-0133 <b>Date of issue</b> ..... 2016/7/22 <b>Total number of pages</b> ..... 145	
<b>Name of Testing Laboratory preparing the Report</b> ..... China Testing & Inspection Institute for Household Electric Appliances (CTIHEA) <b>Address</b> ..... NO.3 Boxing Balu Beijing Economic and Technological Development Area 100176 Beijing CHINA	
<b>Applicant's name</b> ..... GD Midea Air-Conditioning Equipment Co., Ltd <b>Address</b> ..... Midea Industrial City, Beijiao, Shunde, Foshan, 528311 Guangdong, China	
<b>Test specification:</b> <b>Standard</b> ..... IEC 60335-2-40:2013 (Fifth Edition) in conjunction with IEC 60335-1:2010 (Fifth Edition) <b>Test procedure</b> ..... GTR For Low Voltage Electrical Equipment and Appliances <b>Non-standard test method</b> ..... N/A	
<b>Test Report Form No.</b> ..... IEC60335_2_40K <b>Test Report Form(s) Originator</b> ..... CQC-CTIHEA <b>Master TRF</b> ..... Dated 2015-08	
<b>Test item description</b> ..... split-type air conditioner <b>Trade Mark</b> .....  Midea® <b>Manufacturer</b> ..... GD Midea Air-Conditioning Equipment Co., Ltd <b>Model/Type reference</b> ..... MSTABE-18CRN1-NC5 MSTABE-18HRN1-NC5 MSTABE-22CRN1-NC5 MSTABE-22HRN1-NC5 <b>Ratings</b> ..... MSTABE-18CRN1-NC5 230V-60Hz, 10.6A , 2100W MSTABE-18HRN1-NC5 230V-60Hz, 10.6A , 2100W MSTABE-22CRN1-NC5 230V-60Hz, 13.38A, 2650W MSTABE-22HRN1-NC5 230V-60Hz, 14.10A, 2800W	

<b>Testing procedure and testing location:</b>			
<input checked="" type="checkbox"/>	<b>Testing Laboratory:</b>	CHINA TESTING & INSPECTION INSTITUTE FOR HOUSEHOLD ELECTRIC APPLIANCES(CTIHEA)	
<b>Testing location/ address .....</b>		NO.3 Boxing Balu, Beijing Economic and Technological Development Area,100176, Beijing, CHINA	
<b>Tested by (name + signature) .....</b>		Zhang Yujia	Engineer 
<b>Approved by (name + signature) .....</b>		Li Xin	Senior Engineer 

**Copy of marking plate:**


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


SPLIT TYPE AIR CONDITIONER		
MODEL	MSTABE-18CRN1-NC5	
INDOOR MODEL	MSTABE-18CRN1-NC5	
OUTDOOR MODEL	MOTCA30-18CN1-NC5	
T1 CONDITION	COOLING CAPACITY (Btu/h)	18400.000
	CURRENT(A)	6.87
	INPUT(W)	1560
	EER (Btu/h)/W	11.795
H1 CONDITION	HEATING CAPACITY (W)	-----
	CURRENT(A)	-----
	INPUT(W)	-----
	COP W/W	-----
T3 CONDITION	COOLING CAPACITY (Btu/h)	16600.000
	CURRENT(A)	8.20
	INPUT(W)	1860
	EER (Btu/h)/W	8.925
EXCESSIVE OPERATING PRESSURE	DISCHARGE	4.8Mpa
	SUCTION	1.5Mpa
REFRIGERANT	R410A /1130g	
POWER SOURCE	230V-60Hz,1Ph	
RATED CURRENT	10.6A	
RATED INPUT	2100W	
OUTDOOR UNIT RESISTANCE CLASS		IP 24
 MADE IN CHINA		

SPLIT TYPE AIR CONDITIONER		
MODEL	MSTABE-18HRN1-NC5	
INDOOR MODEL	MSTABE-18HRN1-NC5	
OUTDOOR MODEL	MOTCA30-18HN1-NC5	
T1 CONDITION	COOLING CAPACITY (Btu/h)	18200.000
	CURRENT(A)	6.86
	INPUT(W)	1560
	EER (Btu/h)/W	11.667
H1 CONDITION	HEATING CAPACITY (W)	5129.000
	CURRENT(A)	7.16
	INPUT(W)	1620
	COP W/W	3.166
T3 CONDITION	COOLING CAPACITY (Btu/h)	16200.000
	CURRENT(A)	8.17
	INPUT(W)	1850
	EER (Btu/h)/W	8.757
EXCESSIVE OPERATING PRESSURE	DISCHARGE	4.8Mpa
	SUCTION	1.5Mpa
REFRIGERANT	R410A /1800g	
POWER SOURCE	230V-60Hz,1Ph	
RATED CURRENT	10.6A	
RATED INPUT	2100W	
OUTDOOR UNIT RESISTANCE CLASS		IP 24
 MADE IN CHINA		

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SPLIT TYPE AIR CONDITIONER		
MODEL	MSTABE-22CRN1-NC5	
INDOOR MODEL	MSTABE-22CRN1-NC5	
OUTDOOR MODEL	MOTD30-22CN1-NC5	
T1 CONDITION	COOLING CAPACITY (Btu/h)	22800.000
	CURRENT(A)	8.31
	INPUT(W)	1880
	EER (Btu/h)/W	12.128
H1 CONDITION	HEATING CAPACITY (W)	-----
	CURRENT(A)	-----
	INPUT(W)	-----
	COP W/W	-----
T3 CONDITION	COOLING CAPACITY (Btu/h)	19220.000
	CURRENT(A)	9.78
	INPUT(W)	2210
	EER (Btu/h)/W	8.697
EXCESSIVE OPERATING PRESSURE	DISCHARGE	4.8Mpa
	SUCTION	1.5Mpa
REFRIGERANT	R410A /2050g	
POWER SOURCE	230V-60Hz, 1Ph	
RATED CURRENT	13.38A	
RATED INPUT	2650W	
OUTDOOR UNIT RESISTANCE CLASS		IP 24
 MADE IN CHINA		

SPLIT TYPE AIR CONDITIONER		
MODEL	MSTABE-22HRN1-NC5	
INDOOR MODEL	MSTABE-22HRN1-NC5	
OUTDOOR MODEL	MSTABE-22HRN1-NC5	
T1 CONDITION	COOLING CAPACITY (Btu/h)	23202.000
	CURRENT(A)	8.86
	INPUT(W)	2000
	EER (Btu/h)/W	11.601
H1 CONDITION	HEATING CAPACITY (W)	7122
	CURRENT(A)	9.20
	INPUT(W)	2080
	COP (W) /W	3.424
T3 CONDITION	COOLING CAPACITY (Btu/h)	19899.000
	CURRENT(A)	10.60
	INPUT(W)	2390
	EER (Btu/h)/W	8.326
EXCESSIVE OPERATING PRESSURE	DISCHARGE	4.8MPa
	SUCTION	1.5MPa
REFRIGERANT	R410A/2100g	
POWER SOURCE	230V~ 60Hz, 1Ph	
RATED CURRENT	14.10A	
RATED INPUT	2800W	
OUTDOOR UNIT RESISTANCE CLASS		IP 24
 Made in China		

<b>Test item particulars .....</b> :	
<b>Classification of installation and use .....</b> :	Stationary appliance
<b>Supply Connection .....</b> :	Supply cord connected to fixing wiring
<b>.....</b> :	Class I
<b>Possible test case verdicts:</b>	
- 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)
<b>Testing .....</b> :	
<b>Date of receipt of test item .....</b> :	2016.06.20
<b>Date (s) of performance of tests .....</b> :	2016.06.20—2016.07.21
<b>General remarks:</b>	
<p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p>	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-2-29:</b>	
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
<b>When differences exist; they shall be identified in the General product information section.</b>	
<b>Name and address of factory (ies) .....</b> :	GD Midea Air-Conditioning Equipment Co., Ltd Midea Industrial City, Beijiao, 528311 Shunde, Foshan, Guangdong, People's Republic of China
<b>General product information:</b>	
<p>The product is type Y attachment, Class I, stationary, motor-operated appliance.</p> <p>This report included four models: MSTABE-18CRN1-NC5, MSTABE-18HRN1-NC5, MSTABE-22CRN1-NC5, MSTABE-22HRN1-NC5; They have the similar construction and shared some critical components except for model, compressor and fan motor. All the other constructional and electrical characteristics unchanged.</p> <p>This report included four models. Models MSTABE-18HRN1-NC5 and MSTABE-22HRN1-NC5 have cooling and heating function, while models MSTABE-18CRN1-NC5 and MSTABE-22CRN1-NC5 just have cooling function only.</p> <p>We carried out all tests with model MSTABE-22HRN1-NC5, Clauses 10,11,13,19.2 have been carried out for the model :MSTABE-18HRN1-NC5 and MSTABE-22CRN1-NC5.</p> <p>The country which the prouduct will be export to Kingdom of Saudi Arabia.</p>	

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.		P
5.2	Tests of clause 21 carried out on separate samples. Tests of clauses 11, 19 and 21 require pressure measurements made at various points in refrigerating system (IEC 60335-2-40)		P
	At least one additional specially prepared sample required for tests of annex FF (Leak simulation tests) (IEC 60335-2-40)		N/A
	Temperatures on refrigerant piping measured during test of clause 11 (IEC 60335-2-40)		P
5.6	Appropriate controls rendered inoperative during test (IEC 60335-2-40)		P
5.7	Tests of clauses 10 and 11 carried out under most severe operating conditions within operating temperature range specified by manufacturer. Annex AA provide examples of such temperature conditions (IEC 60335-2-40)		P
5.10	For split-package units, refrigerant lines installed in accordance with installation instructions (IEC 60335-2-40)		P
	Length of pipe is between 5 m and 7,5 m. (IEC 60335-2-40)		P
	Thermal insulation of refrigerant lines applied in accordance with installation instructions (IEC 60335-2-40)		P
5.101	Motor-compressor subjected to relevant test of clause 19 of IEC 60335-2-34, unless (IEC 60335-2-40)		P
	motor-compressor comply with that standard (IEC 60335-2-40)		N/A
5.102	Motor-compressors tested and comply with IEC 60335-2-34 need not additionally tested for clause 21 (IEC 60335-2-40)		N/A
6	CLASSIFICATION		
6.1	Protection against electric shock: Class I, II, III (IEC 60335-2-40).....:	Class I	P
6.2	Protection against harmful ingress of water, IP degree in accordance with IEC 60529 (IEC 60335-2-40)		-
	- appliances or parts intended for outdoor use be at least IPX4 (IEC 60335-2-40);	IPX4 for outdoor unit	P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- appliances intended only for indoor use (excluding laundry rooms) be IPX0 (IEC 60335-2-40);	For indoor unit	P
	- appliances intended to be used in laundry rooms be at least IPX1 (IEC 60335-2-40).		N/A
6.101	Degree of accessibility (accessible/not accessible to the general public) (IEC 60335-2-40)	accessible to the general public	P
7	MARKING AND INSTRUCTIONS		
7.1	Rated voltage or voltage range (V) .....	230V	P
	Symbol for nature of supply including number of phases, unless for single phase operation (IEC 60335-2-40).....	~	P
	Rated frequency (Hz) .....	60 Hz	P
	Rated power input (W), or .....	Refer to p.5	P
	Rated current (A) .....	Refer to p.5	P
	Manufacturer's or responsible vendor's name, trademark or identification mark.....	GD Midea Air-Conditioning Equipment Co., Ltd	P
	Model or type reference .....	Refer to p.5	P
	Symbol IEC 60417-5172, for class II appliances		N/A
	IP number, other than IPX0.....	IP24 for outdoor unit	P
	Symbol IEC 60417-5180, for class III appliances, unless		N/A
	the appliance is operated by batteries only		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
	Mass of refrigerant (IEC 60335-2-40) .....	Refer to p.5	P
	Refrigerant number in accordance with ANSI/ASHRAE 34 [ISO 817] .....	R410A	P
	Refrigerant identification (IEC 60335-2-40).....	R410A	P
	Permissible excessive operating pressure for sanitary hot water heat pumps (IEC 60335-2-40) ..		N/A
	Maximum operating pressure for heat exchanger for hydronic fan coil/air handling units (IEC 60335-2-40).....		N/A
	Maximum operating pressure for the refrigerant circuit; if the permissible excessive operating pressure for the suction and discharge side differ, a separate indication is required; (IEC 60335-2-40) :	Discharge: 4.8 MPa Suction: 1.5MPa	P



IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Symbol for degree of protection against ingress of water, other than IPX0 (IEC 60335-2-40).....:	IPX4 for outdoor unit	P
	Separate marking of appliances with all rated characteristics of supplementary heaters (IEC 60335-2-40).....:	No supplementary heater	N/A
	Marking of direction of fluid flow (IEC 60335-2-40)		N/A
	Flame symbol and instruction manual symbol of 7.6 visible when flammable refrigerant employed and following conditions exist (IEC 60335-2-40):		
	- accessing parts expected to be subjected to maintenance or repair (IEC 60335-2-40);		N/A
	- observing appliance under sale or installed conditions (IEC 60335-2-40);		N/A
	- observing appliance packaging, if appliance charged with refrigerant (IEC 60335-2-40).		N/A
	If a flammable refrigerant is used, the symbols for "read operator's manual", "operator's manual; operating instructions" and "service indicator; read technical manual" (symbols ISO 7000-0790 (2004-01), ISO-7000-1641 (2004-01) and ISO 7000-1659 (2004-01)) shall be placed on the appliance in a location visible to the persons required to know the information. The perpendicular height shall be at least 10 mm. (IEC 60335-2-40)		N/A
	Additional warning symbol (flame symbol: W021 of ISO 7010) placed on nameplate of unit near declaration of refrigerant type and charge information. Perpendicular height be at least 10 mm, and symbol need not be in colour (IEC 60335-2-40)		N/A
	When installed, the marking should be visible after removing a detachable part (IEC 60335-2-40)		N/A
	Following warning also applied to appliance when flammable refrigerant employed. WARNING Appliance shall be installed, operated and stored in a room with a floor area larger than 'X' m <sup>2</sup> (only applies to appliances that are not fixed appliances) (IEC 60335-2-40)		N/A
	Not fixed appliances, minimum room size X specified on appliance. X in marking determined in m <sup>2</sup> by procedure described in Clause GG.2 for unventilated areas and X in marking be 4 if refrigerant charge of appliance is less than m <sub>1</sub> (see GG.1.1) (IEC 60335-2-40)		N/A
	Maximum allowable pressure for low-pressure side and high-pressure side marked on product (IEC 60335-2-40)		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	If not already visible when accessing service port and if service port provided, service port marked to identify type of refrigerant. If refrigerant is flammable, symbol B.3.2 of ISO 3864, be included, without specifying the colour (IEC 60335-2-40)		N/A
7.2	Warning for stationary appliances for multiple supply		N/A
	Warning placed in vicinity of terminal cover		N/A
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen		N/A
	Different rated values marked with the values separated by an oblique stroke		N/A
7.4	Appliances adjustable for different rated voltages, the voltage setting is clearly discernible		N/A
	Requirement met if frequent changes are not required and the rated voltage to which the appliance is to be adjusted is determined from a wiring diagram		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		N/A
	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
	Flammable refrigerant, warning symbol W021 of ISO 7010, including colour and format, permanently placed on appliance. Perpendicular height of triangle containing "Caution, risk of fire" symbol be at least 30 mm (IEC 60335-2-40)		N/A
	Flammable refrigerant, symbol requiring reference to manual [ISO 7000-0790 (2004-01)], including colour and format, permanently placed on appliance (IEC 60335-2-40/A1 corr.1)		N/A
	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
	Units of physical quantities and their symbols according to international standardized system		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless		P
	correct mode of connection is obvious		N/A
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		N/A
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means .....	By letters	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		N/A
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		N/A
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
	Appliances not accessible to general public, classification of clause 6.101 included (IEC 60335-2-40)		N/A
	Appliances using flammable refrigerants, an installation, service and operation manual, either separate or combined manuals, provided and include information given in annex DD (IEC 60335-2-40)		N/A
	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		P
	- children being supervised not to play with the appliance		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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
7.12.1	Sufficient details for installation supplied		P
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated		N/A
	Sufficient details for installation or maintenance supplied (IEC 60335-2-40):		-
	- that the appliance shall be installed in accordance with national wiring regulations (IEC 60335-2-40);		P
	- the dimensions of the space necessary for correct installation of the appliance including the minimum permissible distance to adjacent structures (IEC 60335-2-40);		P
	- for appliances with supplementary heaters, the minimum clearance from the appliance to combustible surfaces (IEC 60335-2-40);		N/A
	- a wiring diagram with a clear indication of the connections and wiring to external control devices and supply cord (IEC 60335-2-40);		P
	- the range of external static pressures at which the appliance was tested (add-on heat pumps and appliances with supplementary heaters only) (IEC 60335-2-40);		N/A
	- the method of connection to the appliance to the electrical supply and interconnection of separate components (IEC 60335-2-40);		P
	- indication of which parts of the appliance are suitable for outdoor use, if applicable (IEC 60335-2-40);		P
	- details of type and rating of fuses , or rating of circuit breakers; (IEC 60335-2-40);		P
	- details of supplementary heating elements that may be used in conjunction with the appliance, including fitting instructions either with the appliance or with the supplementary heater (IEC 60335-2-40);		N/A
	- maximum and minimum water or brine operating temperatures (IEC 60335-2-40);		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- maximum and minimum water or brine operating pressures (IEC 60335-2-40).		N/A
	Open storage tanks of heat pumps for water heating, accompanied by an instruction sheet which state that the vent shall not be obstructed (IEC 60335-2-40)		N/A
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		P
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		N/A
7.12.4	Instructions for built-in appliances:		-
	- dimensions of space		N/A
	- dimensions and position of supporting and fixing		N/A
	- minimum distances between parts and surrounding structure		N/A
	- minimum dimensions of ventilating openings and arrangement		N/A
	- connection to supply mains and interconnection of separate components		N/A
	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless		N/A
	a switch complying with 24.3		N/A
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N/A
	Replacement cord instructions, type Y attachment		P
	Replacement cord instructions, type Z attachment		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		N/A
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed		P
7.12.8	Instructions for appliances connected to the water mains:		-
	- max. inlet water pressure (Pa) .....		N/A
	- min. inlet water pressure, if necessary (Pa) .....		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets		N/A
7.13	Instructions and other texts in an official language	English and Arabic	P
7.14	Marking clearly legible and durable, rubbing test as specified		P
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		P
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		P
	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
	Marking on panel allowed, provided panel in place for intended operation of appliance (IEC 60335-2-40)		N/A
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		N/A
7.101	Marking of fuses and overload protective devices, if replaceable (IEC 60335-2-40):		-
	- fuse rated current in amperes, type and rated voltage or (IEC 60335-2-40)		N/A
	- manufacturer and model of overload protective device (IEC 60335-2-40)		N/A
7.102	Marking for connection with aluminium wire, if necessary (IEC 60335-2-40)		N/A
8	PROTECTION AGAINST ACCESS TO LIVE PARTS		-
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable parts removed		P
	Lamps behind a detachable cover not removed, if conditions met		N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts		P
	Use of test probe B of IEC 61032 through openings, with a force of 20 N: no contact with live parts		P
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		P
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		P
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		N/A
8.1.4	Accessible part not considered live if:		-
	- safety extra-low a.c. voltage: peak value not exceeding 42,4 V		N/A
	- safety extra-low d.c. voltage: not exceeding 42,4 V		N/A
	- or separated from live parts by protective impedance		N/A
	If protective impedance: d.c. current not exceeding 2 mA, and		N/A
	a.c. peak value not exceeding 0,7 mA		N/A
	- for peak values over 42,4 V up to and including 450 V, capacitance not exceeding 0,1 $\mu$ F		N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 $\mu$ C		N/A
	- for peak values over 15kV, the energy in the discharge not exceeding 350 mJ		N/A
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		-
	- built-in appliances		N/A
	- fixed appliances		P
	- appliances delivered in separate units		P
	As regards the products which have a dedicated installation panel or cover and which cannot be installed without them, compliance is checked according to 5.10 (after the installation as instructed in the installation manual). (IEC 60335-2-40)		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
	Only possible to touch parts separated from live parts by double or reinforced insulation		P
9	STARTING OF MOTOR-OPERATED APPLIANCES		-
	Requirements and tests are specified in part 2 when necessary		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
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2 .....		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 current is related to the arithmetic mean value of the range		P
11	HEATING		-
11.1	No excessive temperatures in normal use (IEC 60335-2-40)		P
	Compliance is checked by the tests of annex C, if (IEC 60335-2-40):		-
	- temperature of motor winding exceeds values shown in table 3 (IEC 60335-2-40)		N/A
	- there is doubt about classification of insulation system of the motor (IEC 60335-2-40)		N/A
11.2	Placing and mounting of appliance (IEC 60335-2-40):		-
	- clearances to adjacent surfaces (IEC 60335-2-40);		P
	- flow rates for liquid source or sink equipment be minimum, except for fan coils where flow rates and liquid temperatures be maximum (IEC 60335-2-40);		N/A
	- static pressures (IEC 60335-2-40);		N/A



IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- means of adjusting the flow, flow for tests be minimum obtainable (IEC 60335-2-40);		N/A
	- adjustable limit controls set at maximum cut-out setting and minimum differential (IEC 60335-2-40).		P
	Appliances with supplementary heaters, use test casing of clause 11.9 (IEC 60335-2-40)		N/A
11.2.1	Appliances with supplementary heaters, inlet duct connected to inlet air opening (IEC 60335-2-40)		N/A
	Appliance that includes or has provision for supplementary heater is fitted with a metal outlet duct in accordance with Figure 101a) or Figure 101b), depending on the direction of the airflow. (IEC 60335-2-40)		N/A
11.2.2	Ducted appliance without supplementary heaters, air outlet used (IEC 60335-2-40)		N/A
11.3	Temperature rise determine by thermocouples or resistance method (IEC 60335-2-40)		P
11.4	Test performed at supply voltage between 0,94 and 1,06 times the rated voltage (IEC 60335-2-40)	243.8V	P
	Heating elements energized at voltage which gives an electrical input of 1,15 times maximum rated power input (IEC 60335-2-40)		N/A
11.5	Test conducted in heating mode and cooling mode, if both exist (IEC 60335-2-40)		N/A
	All supplementary heating elements operative simultaneously (IEC 60335-2-40)		N/A
11.6	Defrost test in most unfavourable conditions, if needed (IEC 60335-2-40)		N/A
11.7	Appliances operated continuously until steady conditions except for defrost tests (IEC 60335-2-40)		P
11.8	Temperatures not exceeding values of table 3 (IEC 60335-2-40)	(See appended tables)	P
	Protective devices do not operate (IEC 60335-2-40)		P
	Sealing compound not flowing out (IEC 60335-2-40)		P
	Temperature of air in outlet duct not exceed 90 °C (IEC 60335-2-40)		N/A
11.9	Test casing and installation of appliances in accordance with manufacturer's instructions (IEC 60335-2-40)		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Glass fibre insulation for appliances without indication of minimum clearances according to manufacturer; thermocouple in contact with enclosure (IEC 60335-2-40)		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).....:		N/A
	Motor-operated appliances and combined appliances supplied at 1,06 times the rated voltage (V).....:	243.8V	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		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 .....: (IEC 60335-2-40)	(see appended table)	P
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to table 4 :	(see appended table)	P
	No breakdown during the tests		P
14	TRANSIENT OVERVOLTAGES		-
	Appliances withstand the transient over-voltages to which they may be subjected		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 .....:		N/A
	No flashover during the test, unless		N/A
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited		N/A
15	MOISTURE RESISTANCE		-
15.1	Enclosure provides degree of moisture protection against ingress of water (rain, overflow from drain pan or defrosting), tests of clause 15.2, 15.3, 11.6 and 16) (IEC 60335-2-40)		P
	Motor-compressor not operated and detachable parts removed during tests of clause 15.2 and 15.3 (IEC 60335-2-40)		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
15.2	Tests in accordance with IEC 60529 in appliances other than IPX0, as specified (IEC 60335-2-40) ...:	IP24 for outdoor unit	P
15.3	Drain pan filled to brim and subjected to continuous overflow and fan(s) switched on (IEC 60335-2-40)		P
15.101	Spillage test as specified (IEC 60335-2-40)		N/A
	After spillage completed, appliance withstand test of clause 16 (IEC 60335-2-40)		N/A
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		-
16.1	Leakage current not excessive and electric strength adequate		P
	Protective impedance disconnected from live parts before carrying out the tests		N/A
	Tests carried out at room temperature and not connected to the supply		P
16.2	Single-phase appliances: test voltage 1,06 times rated voltage (V) .....	243.8V	P
	Three-phase appliances: test voltage 1,06 times rated voltage divided by $\sqrt{3}$ (V) .....		N/A
	Leakage current measurements ..... (IEC 60335-2-40)		P
	Limit values doubled if:		-
	- all controls have an off position in all poles, or		N/A
	- the appliance has no control other than a thermal cut-out, or		N/A
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		N/A
	- the appliance has radio interference filters		N/A
	With the radio interference filters disconnected, the leakage current do not exceed limits specified ...:		N/A
16.3	Electric strength tests according to table 7 .....	(see appended table)	P
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified .....		N/A
	No breakdown during the tests		P
17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS		-
	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use .....		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) .....	243.8	N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Basic insulation is not short-circuited		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		N/A
	Temperature of the winding not exceeding the value specified in table 8		N/A
	However, limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1		N/A
18	ENDURANCE		-
	Requirements and tests are specified in part 2 when necessary		N/A
19	ABNORMAL OPERATION		-
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated.		P
	Failure of transfer medium flow, or of any control device, does not result in a hazard (IEC 60335-2-40)		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe (electric shock, fire or mechanical hazard, dangerous malfunction)		P
	Appliances are subjected to the tests specified in 19.2 to 19.10, 19.101, 19.102 and 19.103, as applicable. (IEC 60335-2-40)		P
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable		P
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		N/A
	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		N/A
	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		N/A
19.2	Test of appliances with supplementary heaters (IEC 60335-2-40)		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
19.3	Test at temperature permitting continuous operation of the motor-compressor and electric heating elements at same time (IEC 60335-2-40)		N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited		N/A
	Test of appliance with any defect which expected during normal use (IEC 60335-2-40)		P
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		N/A
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		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		N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions		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).....:		N/A
19.7	Test of appliance with motor rotors, other than motor-compressors and stationary circulation pumps in compliance with IEC 60335-2-51, operated for 15 days (360 h) or until protection device opens circuit (IEC 60335-2-40)		P
	Insulation of motor windings (IEC 60335-2-40).....:	(see appended table)	P
	Temperature of enclosure does not exceed (°C) (IEC 60335-2-40).....:	(see appended table)	P
	Temperature of the windings does not exceed the values shown in the table 8; temperature (°C) (IEC 60335-2-40).....:	(see appended table)	P
	Electric strength test as specified in 16.3, 72 h after the beginning of the test (IEC 60335-2-40)		P
	At the end, leakage current between windings and enclosure does not exceed 2 mA (IEC 60335-2-40)		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	If the motor-compressor has not been type-tested against the requirements of IEC 60335-2-34, a sample is provided with the rotor locked and being filled with oil and refrigerant as intended. (IEC 60335-2-40)		P
	Sample is subjected to the tests specified in 19.101, 19.102, 19.103 and 19.105 of IEC 60335-2-34:2012, if applicable, and complies with the requirements in 19.104 of IEC 60335-2-34:2012. (IEC 60335-2-40)		P
19.8	Three phase motors other than motor compressors are operated under the conditions of Clause 11 at rated voltage or at the upper limit of the rated voltage range with one phase disconnected, until steady conditions are obtained or the protective device operates. (IEC 60335-2-40)		N/A
19.10	Series motor operated at 1,3 times rated voltage for 1 min (V) :		N/A
	During the test, parts not being ejected from the 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		P
	they comply with the conditions specified in 19.11.1		P
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless		N/A
	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		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		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

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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
19.11.1	Fault conditions a) to g) in 19.11.2 are not applied to circuits or parts of circuits meeting both of the following conditions:		—
	- 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		P
	- 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		P
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		N/A
	b) open circuit at the terminals of any component	(see appended table)	P
	c) short circuit of capacitors, unless	(see appended table)	P
	they comply with IEC 60384-14		P
	d) short circuit of any two terminals of an electronic component, other than integrated circuits	(see appended table)	P
	This fault condition is not applied between the two circuits of an optocoupler		P
	e) failure of triacs in the diode mode	(see appended table)	P
	f) failure of microprocessors and integrated circuits		N/A
	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		P
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		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
19.11.4	The first paragraph of Part 1 is not applicable for stand-by mode if unintentional operation does not cause any hazards. (IEC 60335-2-40)		N/A
	Appliances having a device with an off position obtained by electronic disconnection, or		N/A
	a device that can be placed in the stand-by mode,		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.		N/A
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.4.1 to 19.11.4.7. (IEC 60335-2-40)		N/A
	Tests are carried out after the protective electronic circuit has operated during the relevant tests of Clause 19 except 19.2, 19.6, 19.11.3, 19.102 and 19.103. (IEC 60335-2-40)		N/A
	If the appliance incorporates more than one protective electronic circuit, each protective electronic circuit has to be tested individually with the appliance operated under normal operation at any temperature within the working range. (IEC 60335-2-40)		N/A
	Components protected by a protective electronic, if engineering judgement gives evidence that the test in the final application will not lead to a hazardous condition. (IEC 60335-2-40)		N/A
	Surge protective devices disconnected, unless		N/A
	they incorporate spark gaps		N/A
	For these tests, it may be necessary to provide specially prepared component samples, e.g. compressors with locked rotor. (IEC 60335-2-40)		N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4		N/A
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3		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		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		N/A
	Earthed heating elements in class I appliances disconnected		N/A



IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3		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		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		N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2		N/A
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation at any temperature within the working range. After 60 s 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. (IEC 60335-2-40)		N/A
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).....:	Fuses tested as intentional weak part	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		P
	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) .....	1250	P
	- supplementary insulation (V).....		N/A
	- reinforced insulation (V) .....	3000	P
	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		P
	The appliance does not undergo a dangerous malfunction, and		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	- 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
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		N/A
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time		N/A
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited		P
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn		N/A
	Locking in the "on" position of the main contacts of a contact intended for switching on and off the heating element(s) in normal use is considered to be a fault condition, unless the appliance is provided with at least two sets of contacts connected in series. (IEC 60335-2-40)		N/A
	This condition is, for example, achieved by providing two contactors operating independently of each other or by providing one contactor having two independent armatures operating two independent sets of main contacts. (IEC 60335-2-40)		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		N/A
19.101	Test of appliance with heat transfer medium flow of the outdoor heat exchanger restricted or shut off when reaching steady conditions (IEC 60335-2-40)		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Test of appliance with heat transfer flow of the indoor heat exchanger restricted or shut off when reaching steady conditions (IEC 60335-2-40)		P
	Disconnection of motor common to both the outdoor and the indoor heat exchangers when reaching steady conditions (IEC 60335-2-40)		N/A
19.102	Test of appliances using water as heat transfer medium (IEC 60335-2-40)		N/A
19.103	Test of air to air appliances at rated voltage or at the upper limit of the rated voltage range. Dry-bulb temperature is 5 K below values specified by manufacturer (IEC 60335-2-40)		P
	Test with the dry-bulb temperature 10 K over the values specified by manufacturer (IEC 60335-2-40)		P
19.104	All appliances provided with supplementary heaters and free air discharge subjected to specified test in each mode of operation (IEC 60335-2-40)		N/A
	During test temperature not exceed 150 °C but an overshoot of 25 °C is permitted during first hour (IEC 60335-2-40)		N/A
	Thermal protective devices are allowed to operate. (IEC 60335-2-40)		N/A
20	STABILITY AND MECHANICAL HAZARDS		-
20.1	Appliances having adequate stability	Fixed 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		N/A
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°		N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9		N/A
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury		P
	Protective enclosures, guards and similar parts are non-detachable, and		P
	have adequate mechanical strength		P
	Enclosures that can be opened by overriding an interlock are considered to be detachable parts		N/A
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard by unexpected closure		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Not possible to touch dangerous moving parts with the test probe described		P
21	MECHANICAL STRENGTH		-
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P
	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)	P
	The appliance shows no damage impairing compliance with this standard, and		P
	compliance with 8.1, 15.1 and clause 29 not impaired		P
	If doubt, supplementary or reinforced insulation subjected to the electric strength test of 16.3		N/A
	If necessary, repetition of groups of three blows on a new sample		N/A
	Safety requirements specified in annex EE apply. Pressure test in annex EE applies to parts other than pressure vessels (IEC 60335-2-40)		P
	Safety requirements of ISO 14903 apply (IEC 60335-2-40)		P
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements		P
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm	The thickness of supplementary insulation or reinforced insulation is at least 1mm or 2mm	P
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		P
	Appliances using flammable refrigerants withstand the effects of vibration during transport. (IEC 60335-2-40)		N/A
	Appliance is tested in its final packaging for transport and shall withstand a random vibration test according to ASTM D4728-01. (IEC 60335-2-40)		N/A
	Compliance is checked as specified (IEC 60335-2-40)		N/A
22	CONSTRUCTION		-
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		-
	- a supply cord fitted with a plug, or		N/A
	- a switch complying with 24.3, or		N/A
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or		P
	- an appliance inlet		N/A
	Singe-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		N/A
22.3	Appliance provided with pins: no undue strain on socket-outlets		N/A
	Applied torque not exceeding 0,25 Nm		N/A
	Pull force of 50 N to each pin after the appliance has being placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1 mm		N/A
	Each pin subjected to a torque of 0,4 Nm; the pins are not rotating, unless		N/A
	rotating does not impair compliance with this standard		N/A
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		P
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance exceeding 0,1 $\mu$ F, the appliance being disconnected from the supply at the instant of voltage peak		N/A
	Voltage not exceeding 34 V (V) .....		N/A
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
	Electrical insulation not affected by snow penetration to appliance enclosure (IEC 60335-2-40)		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.7	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices		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		P
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:		N/A
	-a non-self-resetting thermal cut-out is required by the standard, and		N/A
	-a voltage maintained non-self-resetting thermal cut-out is used to meet it		N/A
	Non-self-resetting thermal motor protectors have a trip-free action, unless		N/A
	they are voltage maintained		N/A
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely		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		P
	Obvious locked position of snap-in devices used for fixing such parts		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		N/A
	Tests as described		P
22.12	Handles, knobs etc. fixed in a reliable manner		N/A
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible		N/A
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		N/A
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
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
22.15	Storage hooks and the like for flexible cords smooth and well rounded		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		N/A
	Cord reel tested with 6000 operations, as specified		N/A
	Electric strength test of 16.3, voltage of 1000 V applied		N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		N/A
22.18	Current-carrying parts and other metal parts resistant to corrosion		P
22.19	Driving belts not relied upon to provide the required level of insulation, unless		N/A
	constructed to prevent inappropriate replacement		N/A
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	N/A	N/A
	impregnated		N/A
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements		N/A
22.22	Appliances not containing asbestos		P
22.23	Oils containing polychlorinated biphenyl (PCB) not used		P
22.24	Bare heating elements adequately supported to prevent contact with accessible metal parts nor give rise to a hazard in case of rupture or sagging (IEC 60335-2-40)		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Bare heating elements not used with wood or wood composite enclosures. (IEC 60335-2-40)		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		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		N/A
22.27	Parts connected by protective impedance separated by double or reinforced insulation		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		N/A
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		N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or		P
	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		N/A



IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Insulating material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation		N/A
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		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		P
	Electrodes not used for heating liquids		N/A
	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		P
	the reinforced insulation consists of at least 3 layers		N/A
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless		N/A
	the reinforced insulation consists of at least 3 layers		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		P
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		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		N/A
	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

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	they are separated from live parts by double or reinforced insulation		N/A
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		N/A
	the capacitors comply with 22.42		N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out		P
22.39	Lamp holders used only for the connection of lamps		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		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		N/A
22.41	No components, other than lamps, containing mercury		P
22.42	Protective impedance consisting of at least two separate components		N/A
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited		N/A
	Resistors checked by the test of 14.1 a) in IEC 60065		N/A
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14		N/A
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur		N/A
22.44	Appliances not having an enclosure that is shaped or decorated like a toy		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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
22.46	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		N/A
	If the protective electronic circuit software is a part of the normal operation control, inspection of software shall be limited to relevant source code of safety controls or related software controls. (IEC 60335-2-40)		N/A
	Alternative methods are used (IEC 60335-2-40)		N/A
	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		N/A
	These requirements are not applicable to software used for functional purpose or compliance with clause 11		N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use		N/A
	No leakage from any part, including any inlet water hose		N/A
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water		N/A
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless		N/A
	the appliance switches off automatically or can operate continuously without hazard		N/A
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation		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		N/A
	There is a visual indication showing that the appliance is adjusted for remote operation		N/A
	These requirements not necessary on appliances that can operate as follows, without giving rise to a hazard:		-
	- continuously, or		N/A
	- automatically, or		N/A
	- remotely		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
22.101	Appliances intended to be fixed, securely fixed (IEC 60335-2-40)		P
22.102.1	At least two thermal cut-outs in appliances with supplementary heating elements for air (first one be self-resetting and other non-self-resetting thermal cut-out) (IEC 60335-2-40)		N/A
22.102.2	Appliances provided with supplementary heaters for water incorporate non-self-resetting thermal cut-out, providing all-pole disconnection that operates separately from water thermostats (IEC 60335-2-40)		N/A
	However, for appliances intended to be connected to fixed wiring, the neutral conductor need not be disconnected (IEC 60335-2-40)		N/A
22.102.3	Thermal cut-outs of capillary type open in event of leakage from capillary tube (IEC 60335-2-40)		N/A
22.103	Non-self-resetting cut-outs independent of other control devices (IEC 60335-2-40)		N/A
22.104	Containers of sanitary hot water heat pumps withstand twice permissible operating pressure in closed containers (IEC 60335-2-40) or		N/A
	0,15 MPa in open containers (IEC 60335-2-40)		N/A
	without leakage or rupture (IEC 60335-2-40)		N/A
22.105	Air or vapour cushion in closed containers not exceeding 10 % (IEC 60335-2-40)		N/A
22.106	Pressure relief devices operating at 0,1 MPa over permissible operating pressure (IEC 60335-2-40)		N/A
22.107	Water outlet systems of open containers free from obstruction causing over-pressure (IEC 60335-2-40)		N/A
	Vented containers of sanitary hot water heat pumps always open to the atmosphere through appropriate aperture (IEC 60335-2-40)		N/A
22.108	Not vented open containers subjected to test in accordance with clause 22.104 to vacuum of 33 kPa for 15 min (IEC 60335-2-40)		N/A
	Container show no deformation which result in a hazard (IEC 60335-2-40)		N/A
22.109	Replacement of non-self-resetting thermal cut-outs does not damage other connections (IEC 60335-2-40)		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
22.110	Non-self-resetting thermal cut-outs operate without short-circuiting live parts of different potential and without causing contact between live parts and enclosure (IEC 60335-2-40)		N/A
	Test repeated five times without blowing 3 A fuse which connects appliance to earth (IEC 60335-2-40)		N/A
	Electric strength test as specified in clause 16.3 for supplementary heating elements (IEC 60335-2-40)		N/A
22.111	Manual resetting of thermostats not necessary after power supply interruption (IEC 60335-2-40)		P
22.112	Construction of refrigerating system comply with requirements of Section 3 of ISO 5149 (IEC 60335-2-40)		P
22.113	Flammable refrigerant used, refrigerant tubing protected or enclosed to avoid mechanical damage (IEC 60335-2-40)		N/A
	Tubing protected to extent that it will not be handled or used for carrying during moving of product (IEC 60335-2-40)		N/A
	Tubing located within confines of cabinet considered to be protected from mechanical damage (IEC 60335-2-40)		N/A
22.114	Flammable refrigerant used, low temperature solder alloys, such as lead/tin alloys, not acceptable for pipe connections or any other refrigerant pressure containing purposes. (IEC 60335-2-40)		N/A
22.115	Total refrigerant mass (M) of all refrigerating systems within appliance employing flammable refrigerants, not exceed $m_3$ defined in annex GG (IEC 60335-2-40/A1)		N/A
22.116	Appliances using flammable refrigerants constructed that any leaked refrigerant not flow or stagnate so as to cause fire or explosion hazard in areas within appliance where electrical components, which could be a source of ignition and which could function under normal conditions or in event of leak, fitted (IEC 60335-2-40/A1)		N/A
	Separate components, such as thermostats, which charged with less than 0,5 g of flammable gas not considered to cause fire or explosion hazard in event of leakage of gas within component itself (IEC 60335-2-40/A1)		N/A
	All electrical components that could be a source of ignition and which could function under normal conditions or in the event of a leak, shall be located in an enclosure which satisfies the following: (IEC 60335-2-40):		-

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- comply with Clause 20 of IEC 60079-15:2010 for restricted breathing enclosures suitable for use with group IIA gases or the refrigerant used. (IEC 60335-2-40)		N/A
	- not be located in an area where a potentially flammable gas mixture will accumulate as demonstrated by the test of Annex FF. Electrical components not located in an area where a potentially flammable gas mixture will accumulate as demonstrated by the test of Annex FF are not considered an ignition source. (IEC 60335-2-40)		N/A
	Components and apparatus complying with Clause 8 to 19 of IEC 60079-15:2010, for group IIA gases or the refrigerant used or an applicable standard that makes electrical components suitable for use in Zone 2, 1 or 0 as defined IEC 60079-14 are not considered as a source of ignition. (IEC 60335-2-40)		N/A
22.117	Temperatures on surfaces that exposed to leakage of flammable refrigerants not exceed auto-ignition temperature of refrigerant reduced by 100 K; some typical values given in annex BB (IEC 60335-2-40/A1)		N/A
22.118	Flammable refrigerant used, all appliances charged with refrigerant at manufacturing location or charged on site as recommended by manufacturer (IEC 60335-2-40/A1)		N/A
	Part of appliance that charged on site, which requires brazing or welding in installation not shipped with flammable refrigerant charge. Joints made in installation between parts of refrigerating system, with at least one part charged, made in accordance with following (IEC 60335-2-40/A1):		
	- A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the refrigerating system parts. A vacuum valve shall be provided to evacuate the interconnecting pipe and/or any uncharged refrigerating system part (IEC 60335-2-40)		N/A
	- Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated. (IEC 60335-2-40)		N/A
	- Refrigerant tubing shall be protected or enclosed to avoid damage (IEC 60335-2-40)		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during normal operations shall be protected against mechanical damage (IEC 60335-2-40)		N/A
23	INTERNAL WIRING		-
23.1	Wireways smooth and free from sharp edges		P
	Wires protected against contact with burrs, cooling fins etc.		P
	Wire holes in metal well-rounded or provided with bushings		P
	Wiring effectively prevented from coming into contact with moving parts		P
23.2	Beads etc. on live wires cannot change their position, and are not resting on sharp edges		N/A
	Beads inside flexible metal conduits contained within an insulating sleeve		N/A
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress		N/A
	Flexible metallic tubes not causing damage to insulation of conductors		N/A
	Open-coil springs not used		N/A
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another		N/A
	No damage after 10 000 flexings for conductors flexed during normal use, or		N/A
	100 flexings for conductors flexed during user maintenance		N/A
	Electric strength test of 16.3, 1000 V between live parts and accessible metal parts		N/A
	Not more than 10 % of the strands of any conductor broken, and		N/A
	not more than 30 % for wiring supplying circuits that consume no more than 15 W		N/A
23.4	Bare internal wiring sufficiently rigid and fixed		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		P
	Basic insulation electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245, or		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	no breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		P
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or		P
	be such that it can only be removed by breaking or cutting		N/A
23.7	The colour combination green/yellow only used for earthing conductors		P
23.8	Aluminium wires not used for internal wiring		N/A
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless		P
	the contact pressure is provided by spring terminals		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)		N/A
24	COMPONENTS		-
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components .....	(see appended table)	P
	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		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		P
	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		P
	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		N/A



IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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		P
	Motor-compressors not tested according to IEC 60335-2-34 (not necessary to meet all requirements of IEC 60335-2-34) (IEC 60335-2-40)		P
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, complying with IEC 60384-14		P
	If the capacitors have to be tested, they are tested according to annex F		N/A
24.1.2	Safety isolating transformers complying with IEC 61558-2-6		N/A
	If they have to be tested, they are tested according to annex G		N/A
24.1.3	Switches complying with IEC 61058-1, the number of cycles of operation being at least 10 000		N/A
	If they have to be tested, they are tested according to annex H		N/A
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		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		N/A
24.1.4	Automatic controls complying with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least:		-
	- thermostats: ..... 10 000		N/A
	- temperature limiters: ..... 1 000		N/A
	- self-resetting thermal cut-outs: ..... 300		N/A
	- voltage maintained non-self-resetting thermal cut-outs: ..... 1 000		N/A
	- other non-self-resetting thermal cut-outs: ..... 30		N/A
	- timers: ..... 3 000		N/A
	- energy regulators: ..... 10 000		N/A
	- thermostats which control motor-compressor (IEC 60335-2-40): ..... 100 000		N/A
	- motor-compressor starting relays (IEC 60335-2-40): ..... 100 000		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- automatic thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (not less than number of operations during locked rotor test) (IEC 60335-2-40):.....min 2000		P
	- manual reset thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (IEC/EN 60335-2-40): ..... 50		N/A
	- other automatic thermal motor-protectors (IEC 60335-2-40):..... 2000	Motor protector	P
	- other manual reset thermal motor-protectors (IEC 60335-2-40):..... 30		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		N/A
	Thermal motor protectors are tested in combination with their motor under the conditions specified in annex D		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		N/A
24.1.5	Appliance couplers complying with IEC 60320-1		N/A
	However, for appliances classified higher than IPX0, the appliance couplers complying with IEC 60320-2-3		N/A
	Interconnection couplers complying with IEC 60320-2-2		N/A
24.1.6	Small lamp holders similar to E10 lampholders complying with IEC 60238, the requirements for E10 lampholders being applicable	No lamp holder	N/A
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		N/A
24.1.8	The relevant standard for thermal links is IEC 60691		N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of clause 19		N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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.....:		P
24.2	Appliances not fitted with:		-
	- switches or automatic controls in flexible cords		P
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		p
	- thermal cut-outs that can be reset by soldering, unless		p
	the solder has a melting point of at least 230 °C		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		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		N/A
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly		P
	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		P
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		N/A
	In addition, the motors comply with the requirements of annex I		N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770		N/A
	They are supplied with the appliance		N/A
	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
	One or more of the following conditions are to be met:		-
	- the capacitors are of class P2 according to IEC 60252-1		P
	- the capacitors are housed within a metallic or ceramic enclosure		N/A
	- the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm		N/A
	- adjacent non-metallic parts within 50 mm withstand the needle-flame test of annex E		N/A
	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695-11-10		N/A
24.101	Replaceable parts of thermal control devices identified by marking (IEC 60335-2-40)		N/A
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		-
25.1	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:		-
	- supply cord fitted with a plug,		N/A
	- an appliance inlet having at least the same degree of protection against moisture as required for the appliance, or		N/A
	- pins for insertion into socket-outlets		N/A
	Supply cord fitted with plug provided, if (IEC 60335-2-40):		-
	- appliance only for indoor use (IEC 60335-2-40),		N/A
	- marked with rating of 25 A or less and (IEC 60335-2-40)		N/A
	- complies with code requirements of country where it will be used (IEC 60335-2-40).		N/A
	Appliance inlet not allowed (IEC 60335-2-40)		N/A
25.2	Appliance not provided with more than one means of connection to the supply mains		P
	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		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:		-

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Clause	Requirement + Test	Result - Remark	Verdict
	- a set of terminals allowing the connection of a flexible cord		N/A
	- a fitted supply cord		P
	- a set of supply leads accommodated in a suitable compartment		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		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		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		N/A
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to table 10 (mm) .....		N/A
	Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in clause 29		N/A
25.5	Method for assembling the supply cord to the appliance:		
	- type X attachment		N/A
	- type Y attachment		P
	- type Z attachment, if allowed in relevant part 2		N/A
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords		N/A
	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		N/A
25.6	Plugs fitted with only one flexible cord		N/A
25.7	Supply cords, other than for class III appliances, being one of the following types:		-
	- rubber sheathed (at least 60245 IEC 53)		N/A
	- polychloroprene sheathed (at least 60245 IEC 57)		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- cross-linked polyvinyl chloride sheathed (at least 60245 IEC 88)		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		-
	- light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg		N/A
	- ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances		P
	- heat resistant polyvinyl chloride sheathed. Not used for type X attachment other than specially prepared cords		-
	- heat-resistant light polyvinyl chloride sheathed cord (60227 IEC 56), for appliances not exceeding 3 kg		N/A
	- heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), for other appliances		N/A
	Supply cords for class III appliances adequately insulated		N/A
	Test with 500 V for 2 min for supply cords of class III appliances that contain live parts		N/A
	Supply cords for outdoor use not lighter than polychloroprene sheathed flexible cord (60245 IEC 57) (IEC 60335-2-40)		P
25.8	Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm <sup>2</sup> ).....:		P
25.9	Supply cords not in contact with sharp points or edges		P
25.10	Supply cord of class I appliances have a green/yellow core for earthing		P
25.11	Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless		P
	the contact pressure is provided by spring terminals		N/A
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure		N/A
25.13	Inlet openings so constructed as to prevent damage to the supply cord		P
	If the enclosure at the inlet opening is not of insulating material, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If unsheathed supply cord, a similar additional bushing or lining is required, unless the appliance is		N/A
	class 0, or		N/A
	a class III appliance not containing live parts		N/A
25.14	Supply cords moved while in operation adequately protected against excessive flexing		N/A
	Flexing test, as described:		-
	- applied force (N).....:		N/A
	- number of flexings.....:		N/A
	The test does not result in:		-
	- short-circuit between the conductors, such that the current exceeds a value of twice the rated current		N/A
	- breakage of more than 10 % of the strands of any conductor		N/A
	- separation of the conductor from its terminal		N/A
	- loosening of any cord guard		N/A
	- damage to the cord or the cord guard		N/A
	- broken strands piercing the insulation and becoming accessible		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		P
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged		P
	Pull and torque test of supply cord, values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm).....:	Pull force: 100 N; torque: 0,35 Nm	P
	Cord not damaged and max. 2 mm displacement of the cord	Cord displacement: 1,2 mm	P
25.16	Cord anchorages for type X attachments constructed and located so that:		-
	- replacement of the cord is easily possible		N/A
	- it is clear how the relief from strain and the prevention of twisting are obtained		N/A
	- they are suitable for different types of supply cord		N/A
	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	they are separated from accessible metal parts by supplementary insulation		N/A
	- the cord is not clamped by a metal screw which bears directly on the cord		N/A
	- at least one part of the cord anchorage securely fixed to the appliance, unless		N/A
	it is part of a specially prepared cord		N/A
	- screws which have to be operated when replacing the cord do not fix any other component, unless		N/A
	the appliance becomes inoperative or incomplete or the parts cannot be removed without a tool		N/A
	- if labyrinths can be bypassed the test of 25.15 is nevertheless withstood		N/A
	- for class 0, 0I and I appliances they are of insulating material or are provided with an insulating lining, unless		N/A
	failure of the insulation of the cord does not make accessible metal parts live		N/A
	- for class II appliances they are of insulating material, or		N/A
	if of metal, they are insulated from accessible metal parts by supplementary insulation		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		N/A
25.17	Adequate cord anchorages for type Y and Z attachment, test with the cord supplied with the appliance	Type Y attachment	P
25.18	Cord anchorages only accessible with the aid of a tool, or		P
	Constructed so that the cord can only be fitted with the aid of a tool		P
25.19	Type X attachment, glands not used as cord anchorage in portable appliances		N/A
	Tying the cord into a knot or tying the cord with string not used		N/A
25.20	The insulated conductors of the supply cord for type Y and Z attachment additionally insulated from accessible metal parts	Type Y attachment	P
25.21	Space for supply cord for type X attachment or for connection of fixed wiring constructed:		-



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Clause	Requirement + Test	Result - Remark	Verdict
	- to permit checking of conductors with respect to correct positioning and connection before fitting any cover		P
	- so there is no risk of damage to the conductors or their insulation when fitting the cover		P
	- 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		N/A
	2 N test to the conductor for portable appliances; no contact with accessible metal parts		N/A
25.22	Appliance inlets:		-
	- live parts not accessible during insertion or removal		N/A
	Requirement not applicable to appliance inlets complying with IEC 60320-1		N/A
	- connector can be inserted without difficulty		N/A
	- the appliance is not supported by the connector		N/A
	- not for cold conditions if temp. rise of external metal parts exceeds 75 K during clause 11, unless		N/A
	the supply cord is unlikely to touch such metal parts		N/A
25.23	Interconnection cords comply with the requirements for the supply cord, except that:		P
	- the cross-sectional area of the conductors is determined on the basis of the maximum current during clause 11		P
	- the thickness of the insulation may be reduced		P
	If necessary, electric strength test of 16.3		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		P
25.25	Dimensions of pins that are inserted into socket-outlets compatible with the dimensions of the relevant socket-outlet.		N/A
	Dimensions of pins and engagement face in accordance with the dimensions of the relevant plug in IEC/TR 60083		N/A
26	TERMINALS FOR EXTERNAL CONDUCTORS		-
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Terminals only accessible after removal of a non-detachable cover, except		P
	for class III appliances that do not contain live parts		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		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		N/A
	the connections are soldered		N/A
	Screws and nuts not used to fix any other component, except		N/A
	internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors		N/A
	If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone, unless		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		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		N/A
	Terminals fixed so that when the clamping means is tightened or loosened:		-
	- the terminal does not become loose		N/A
	- internal wiring is not subjected to stress		N/A
	- neither clearances nor creepage distances are reduced below the values in clause 29		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).....:	Diameter: 4mm; Column III, torque: 0.8Nm	N/A
	No deep or sharp indentations of the conductors		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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened		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		N/A
	Stranded conductor test, 8 mm insulation removed		N/A
	No contact between live parts and accessible metal parts and,		N/A
	for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only		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 <sup>2</sup> ).....:		N/A
	If a specially prepared cord is used, terminals need only be suitable for that cord		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		N/A
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, located close to each other		N/A
26.9	Terminals of the pillar type constructed and located as specified		N/A
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless		N/A
	conductors ends fitted with means suitable for screw terminals		N/A
	Pull test of 5 N to the connection		N/A
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used		P
	For class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone		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		N/A
27	PROVISION FOR EARTHING		-

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
	Earthing terminals and earthing contacts not connected to the neutral terminal		P
	Class 0, II and III appliances have no provision for earthing		N/A
	Safety extra-low voltage circuits not earthed, unless		N/A
	protective extra-low voltage circuits		N/A
27.2	Clamping means of earthing terminals adequately secured against accidental loosening		P
	Terminals for the connection of external equipotential bonding conductors allow connection of conductors of 2,5 to 6 mm <sup>2</sup> , and		N/A
	do not provide earthing continuity between different parts of the appliance, and		N/A
	conductors cannot be loosened without the aid of a tool		N/A
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		P
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		P
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion		P
	If of steel, these parts provided with an electroplated coating with a thickness at least 5 µm		N/A
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		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		N/A
27.5	Low resistance of connection between earthing terminal and earthed metal parts		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	Resistance not exceeding 0,1 $\Omega$ at the specified low-resistance test ( ).....:	0,047 $\Omega$	P
	If the ground continuity between system components meets the minimum values specified in 27.5, it is considered to meet the requirements without dedicated grounding conductors. (IEC 60335-2-40)		N/A
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand-held appliances.		N/A
	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		N/A
28	SCREWS AND CONNECTIONS		-
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses		P
	Screws not of soft metal liable to creep, such as zinc or aluminium		P
	Diameter of screws of insulating material min. 3 mm		N/A
	Screws of insulating material not used for any electrical connections or connections providing earthing continuity		N/A
	Screws used for electrical connections or connections providing earthing continuity screwed into metal		P
	Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation		P
	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		N/A
	For screws and nuts; torque-test as specified in table 14.....:	(see appended table)	P

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Clause	Requirement + Test	Result - Remark	Verdict
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		P
	there is resiliency in the metallic parts to compensate for shrinkage or distortion of the insulating material		P
	This requirement does not apply to electrical connections in circuits of appliances for which:		-
	- 30.2.2 is applicable and that carry a current not exceeding 0,5 A		N/A
	- 30.2.3 is applicable and that carry a current not exceeding 0,2 A		N/A
28.3	Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together		P
	Thread-cutting (self-tapping) screws and thread rolling screws only used for electrical connections if they generate a full form standard machine screw thread		N/A
	Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer		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:		-
	- in normal use,		N/A
	- during user maintenance,		N/A
	- when replacing a supply cord having a type X attachment, or		N/A
	- during installation		N/A
	At least two screws being used for each connection providing earthing continuity, unless		P
	the screw forms a thread having a length of at least half the diameter of the screw		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		P
	This requirement does not apply to screws in the earthing circuit if at least two screws are used, or		N/A
	if an alternative earthing circuit is provided		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if the connections are subjected to torsion		N/A
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		-
	Clearances, creepage distances and solid insulation withstand electrical stress		P
	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), annex J applies .....		N/A
	The microenvironment is pollution degree 1 under type 1 protection		N/A
	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		N/A
	These values apply to functional, basic, supplementary and reinforced insulation .....		N/A
	For motor-compressor not complying with IEC 60335-2-34, additions and modifications as specified (IEC 60335-2-40)		P
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)	P
	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14		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 1500 V and above are increased by 0,5 mm and the impulse voltage test is not applicable		P
	Impulse voltage test is not applicable:		-
	- when the microenvironment is pollution degree 3, or		P
	- for basic insulation of class 0 and class 01 appliances		N/A
	Appliances are in overvoltage category II		P
	A force of 2 N is applied to bare conductors, other than heating elements		N/A
	A force of 30 N is applied to accessible surfaces		P

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Clause	Requirement + Test	Result - Remark	Verdict
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage		P
	The values of table 16 or the impulse voltage test of clause 14 are applicable :	(see appended table)	P
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1		N/A
	Lacquered conductors of windings considered to be bare conductors		P
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16 .....	(see appended table)	P
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)	P
	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		P
29.1.4	Clearances for functional insulation are the largest values determined from:		-
	-table 16 based on the rated impulse voltage :	(see appended table)	P
	-table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		P
	-clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless		N/A
	the microenvironment is pollution degree 3, or		P
	the distances can be affected by wear, distortion, movement of the parts or during assembly		P
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
	Lacquered conductors of windings considered to be bare conductors		P
	However, clearances at crossover points are not measured		P
	Clearance between surfaces of PTC heating elements may be reduced to 1mm		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
29.1.5	Appliances having higher working voltages than rated voltage, clearances for basic insulation are the largest values determined from:		-
	-table 16 based on the rated impulse voltage :		P
	-table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		P
	-clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	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		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		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		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		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		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)	P
	Pollution degree 2 applies, unless		P
	- precautions taken to protect the insulation; pollution degree 1		N/A
	- insulation subjected to conductive pollution; pollution degree 3		P
	A force of 2 N is applied to bare conductors, other than heating elements		N/A
	A force of 30 N is applied to accessible surfaces		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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		P
	Insulation located in airflow, pollution degree 3 unless (IEC 60335-2-40)		P
	insulation enclosed or located so that unlikely to be exposed to pollution due to normal use (IEC 60335-2-40)		P
29.2.1	Creepage distances of basic insulation not less than specified in table 17.....:	(see appended table)	P
	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 .....		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 .....		N/A
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or .....	(see appended table)	P
	Table 2 of IEC 60664-4, as applicable .....		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)	P
	Table 2 of IEC 60664-4, as applicable .....		N/A
29.2.4	Creepage distances of functional insulation not less than specified in table 18.....:	(see appended table)	P
	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 .....		N/A
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses		P
	Compliance checked:		-
	- by measurement, in accordance with 29.3.1, or		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- by an electric strength test in accordance with 29.3.2, or		N/A
	- by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and		N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		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		N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm		P
	Reinforced insulation have a thickness of at least 2 mm		P
29.3.2	Each layer of material withstand the electric strength test of 16.3 for supplementary insulation		N/A
	Supplementary insulation consist of at least 2 layers		N/A
	Reinforced insulation consist of at least 3 layers		N/A
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by		N/A
	the electric strength test of 16.3		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		N/A
29.3.4	Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in table 19:		N/A
30	RESISTANCE TO HEAT AND FIRE		-
30.1	External parts of non-metallic material,		P
	parts supporting live parts, and		P
	parts of thermoplastic material providing supplementary or reinforced insulation		P
	sufficiently resistant to heat		P
	Ball-pressure test according to IEC 60695-10-2		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)	P

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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)	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)	N/A
30.2	Parts of non-metallic material resistant to ignition and spread of fire	(see appended table)	P
	This requirement does not apply to:		-
	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		N/A
	decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance		N/A
	Compliance checked by the test of 30.2.1, and in addition:		-
	- for attended appliances, 30.2.2 applies		N/A
	- for unattended appliances, 30.2.3 applies		P
	For appliances for remote operation, 30.2.3 applies		N/A
	For base material of printed circuit boards, 30.2.4 applies		P
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11 at 550 °C		P
	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		N/A
	the material is classified at least HB40 according to IEC 60695-11-10		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		N/A
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2		P
	The tests are not applicable to conditions as specified .....		P
30.2.3.1	Parts of non-metallic material supporting connections carrying a current exceeding 0,2 A during normal operation, and		P

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Clause	Requirement + Test	Result - Remark	Verdict
	parts of non-metallic material, other than small parts, within a distance of 3 mm,		P
	subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850 °C		P
	Glow-wire applied to an interposed shielding material, if relevant		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 850 °C		N/A
30.2.3.2	Parts of non-metallic material supporting connections, and		P
	parts of non-metallic material within a distance of 3 mm,		P
	subjected to glow-wire test of IEC 60695-2-11		P
	The test severity is:		-
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		P
	- 650 °C, for other connections		N/A
	Glow-wire applied to an interposed shielding material, if relevant		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:		-
	- a glow-wire ignition temperature according to IEC 60695-2-13 of at least:		N/A
	- 775 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 675 °C, for other connections		N/A
	- a glow-wire flammability index according to IEC 60695-2-12 of at least:		N/A
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	The glow-wire test is also not carried out on small parts. These parts are to:		-
	- comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- comply with the needle-flame test of annex E, or		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
	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:		-
	- 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		N/A
	- parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts for which the needle-flame test of annex E was applied, or		N/A
	- small parts for which a material classification of V-0 or V-1 was applied		N/A
	However, the consequential needle-flame test is not carried out on non-metallic parts, including small parts, within the cylinder that are:		-
	- parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or		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		N/A
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of annex E		P
	Test not applicable to conditions as specified .....		N/A
31	RESISTANCE TO RUSTING		-
	Relevant ferrous parts adequately protected against rusting		P
	Tests specified in part 2 when necessary		P
	Salt mist test of IEC 60068-2-52, severity 2 (IEC 60335-2-40)		P
	Before test, coatings are scratched by means of a harden steel pin as specified (IEC 60335-2-40)		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Five scratches made at least 5 mm apart and at least 5 mm from the edges (IEC 60335-2-40)		P
	Appliance not deteriorated to such an extent that compliance with clause 8 and 27 is impaired (IEC 60335-2-40)		P
	Coating not be broken and not loosened from the metal surface (IEC 60335-2-40)		P
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		—
	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use		P
	Compliance is checked by the limits or tests specified in part 2, if relevant		N/A
A	ANNEX A (INFORMATIVE) ROUTINE TESTS		-
	Description of routine tests to be carried out by the manufacturer		N/A
B	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BATTERIES		-
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance		N/A
	This annex does not apply to battery chargers		N/A
3.1.9	Appliance operated under the following conditions:		
	- the appliance, supplied by its fully charged battery, operated as specified in relevant part 2		N/A
	- the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate		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		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		N/A
3.6.2	Part to be removed in order to discard the battery is not considered to be detachable		N/A
5.B.101	Appliances supplied from the supply mains tested as specified for motor-operated appliances		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage and polarity of the terminals		N/A
	The positive terminal indicated by symbol IEC 60417-5005 and the negative terminal by symbol IEC 60417-5006		N/A
7.6	Symbols 60417-5005 and IEC 60417-5006		N/A
7.12	The instructions give information regarding charging		N/A
	The instructions for appliances incorporating batteries intended to be replaced by the user includes required information		N/A
	Details about how to remove batteries containing materials hazardous to the environment given		N/A
7.15	Markings placed on the part of the appliance connected to the supply mains		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		N/A
	If the appliance can be operated without batteries, double or reinforced insulation required		N/A
11.7	The battery is charged for the period stated in the instructions or 24 h .....		N/A
19.1	Appliances subjected to tests of 19.B.101, 19.B.102 and 19.B.103		N/A
19.10	Not applicable		N/A
19.B.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged		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,		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		N/A
21.B.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength		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:		-
	- 100, if the mass of the part does not exceed 250 g (g) .....		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	- 50, if the mass of the part exceeds 250 g .....		N/A
	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met		N/A
22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible		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		N/A
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies		N/A
	For other parts, 30.2.2 applies		N/A
C	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		-
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding		N/A
	Test conditions as specified		N/A
E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		-
	Needle-flame test carried out in accordance with IEC 60695-11-5, with the following modifications:		P
7	Severities		-
	The duration of application of the test flame is 30 s $\pm$ 1 s		P
9	Test procedure		-
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		P
9.2	The first paragraph does not apply		P
	If possible, the flame is applied at least 10 mm from a corner		P
9.3	The test is carried out on one specimen		P
	If the specimen does not withstand the test, the test may be repeated on two additional specimens, both withstanding the test		N/A
11	Evaluation of test results		-
	The duration of burning not exceeding 30 s		N/A
	However, for printed circuit boards, the duration of burning not exceeding 15 s		P

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Clause	Requirement + Test	Result - Remark	Verdict
F	ANNEX F (NORMATIVE) CAPACITORS		-
	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:		-
1.5	Terms and definitions		-
1.5.3	Class X capacitors tested according to subclass X2		N/A
1.5.4	This subclause is applicable		N/A
1.6	Marking		-
	Items a) and b) are applicable		N/A
3.4	Approval testing		-
3.4.3.2	Table 3 is applicable as described		N/A
4.1	Visual examination and check of dimensions		-
	This subclause is applicable		N/A
4.2	Electrical tests		-
4.2.1	This subclause is applicable		N/A
4.2.5	This subclause is applicable		N/A
4.2.5.2	Only table 11 is applicable		N/A
	Values for test A apply		N/A
	However, for capacitors in heating appliances the values for test B or C apply		N/A
4.12	Damp heat, steady state		-
	This subclause is applicable		N/A
	Only insulation resistance and voltage proof are checked		N/A
4.13	Impulse voltage		-
	This subclause is applicable		N/A
4.14	Endurance		-
	Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 are applicable		N/A
4.14.7	Only insulation resistance and voltage proof are checked		N/A
	No visible damage		N/A
4.17	Passive flammability test		-
	This subclause is applicable		N/A
4.18	Active flammability test		
	This subclause is applicable		N/A

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Clause	Requirement + Test		Verdict
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		-
	The following modifications to this standard are applicable for safety isolating transformers:		-
7	Marking and instructions		-
7.1	Transformers for specific use marked with:		-
	- name, trademark or identification mark of the manufacturer or responsible vendor .....		N/A
	- model or type reference .....		N/A
17	Overload protection of transformers and associated circuits		
	Fail-safe transformers comply with subclause 15.5 of IEC 61558-1		N/A
22	Construction		-
	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable		N/A
29	Clearances, creepage distances and solid insulation		-
29.1, 29.2, 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply		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		N/A
	For windings providing reinforced insulation, the distance specified in item 2c of table 13 of IEC 61558-1 is not assessed		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		N/A
H	ANNEX H (NORMATIVE) SWITCHES		-
	Switches comply with the following clauses of IEC 61058-1, as modified below:		-
	The tests of IEC 61058-1 carried out under the conditions occurring in the appliance		N/A
	Before being tested, switches are operated 20 times without load		N/A
8	Marking and documentation		-
	Switches are not required to be marked		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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
13	Mechanism		-
	The tests may be carried out on a separate sample		N/A
15	Insulation resistance and dielectric strength		-
15.1	Not applicable		N/A
15.2	Not applicable		N/A
15.3	Applicable for full disconnection and micro-disconnection		N/A
17	Endurance		-
	Compliance is checked on three separate appliances or switches		N/A
	For 17.2.4.4, the number of cycles declared according to 7.1.4 is 10 000, unless		N/A
	otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335 .....		N/A
	Switches for operation under no load and which can be operated only by a tool, and		N/A
	switches operated by hand that are interlocked so that they cannot be operated under load,		N/A
	are not subjected to the tests		N/A
	However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation		N/A
	Subclauses 17.2.2 and 17.2.5.2 not applicable		N/A
	The ambient temperature during the test is that occurring in the appliance during the test of clause 11 in IEC 60335-1		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) .....		N/A
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies		-
	This clause is applicable to clearances and creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in table 24		N/A
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS		-
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with the following modifications:		-
5.7	Conditioning of the test specimens		-

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Clause	Requirement + Test	Result - Remark	Verdict
	When production samples are used, three samples of the printed circuit board are tested		N/A
5.7.1	Cold		-
	The test is carried out at -25 °C		N/A
5.7.3	Rapid change of temperature		-
	Severity 1 is specified		N/A
5.9	Additional tests		-
	This subclause is not applicable		N/A
K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		-
	The information on overvoltage categories is extracted from IEC 60664-1		P
	Overvoltage category is a numeral defining a transient overvoltage condition		P
	Equipment of overvoltage category IV is for use at the origin of the installation		N/A
	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		N/A
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation		P
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies		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		N/A
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES		-
	Information for the determination of clearances and creepage distances		P
M	ANNEX M (NORMATIVE) POLLUTION DEGREE		-
	The information on pollution degrees is extracted from IEC 60664-1		P
	Pollution		-

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Clause	Requirement + Test	Result - Remark	Verdict
	The microenvironment determines the effect of pollution on the insulation, taking into account the macroenvironment		P
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar		N/A
	Minimum clearances specified where pollution may be present in the microenvironment		P
	Degrees of pollution in the microenvironment		-
	For evaluating creepage distances, the following degrees of pollution in the microenvironment are established:		-
	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence		N/A
	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected		P
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected		P
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow		N/A
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		-
	The proof tracking test is carried out in accordance with IEC 60112 with the following modifications:		P
7	Test apparatus		-
7.3	Test solutions		-
	Test solution A is used		P
10	Determination of proof tracking index (PTI)		-
10.1	Procedure		-
	The proof voltage is 100 V, 175 V, 400 V or 600 V .....:	175V	P
	The test is carried out on five specimens		P
	In case of doubt, additional test with proof voltage reduced by 25 V, the number of drops increased to 100		N/A
10.2	Report		-

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Clause	Requirement + Test	Result - Remark	Verdict
	The report states if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V		N/A
O	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF clause 30		-
	Description of tests for determination of resistance to heat and fire		P
P	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES		-
	Modifications applicable for class 0 and 01 appliances having a rated voltage exceeding 150 V, intended to be used in countries having a warm damp equable climate and that are marked WDaE		-
	Modifications may also be applied to class 1 appliances having a rated voltage exceeding 150 V, 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		-
5.7	The ambient temperature for the tests of clauses 11 and 13 is 40 +3/0 °C		N/A
7.1	The appliance marked with the letters WDaE		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		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		N/A
11.8	The values of Table 3 are reduced by 15 K		N/A
13.2	The leakage current for class I appliances not exceeding 0,5 mA		N/A
15.3	The value of t is 37 °C		N/A
16.2	The leakage current for class I appliances not exceeding 0,5 mA (mA):		N/A
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3		N/A
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS		-
	Description of tests for appliances incorporating electronic circuits		P
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		-

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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 validated in accordance with the requirements of this annex		N/A
R.1	Programmable electronic circuits using software		-
	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		N/A
R.2	Requirements for the architecture		-
	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		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:		-
	- single channel with periodic self-test and monitoring		N/A
	- dual channel (homogenous) with comparison		N/A
	- dual channel (diverse) with comparison		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:		-
	- single channel with functional test		N/A
	- single channel with periodic self-test		N/A
	- dual channel without comparison		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		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		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
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		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		N/A
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		N/A
R.2.2.6	The software is referenced to relevant parts of the operating sequence and the associated hardware functions		N/A
R.2.2.7	Labels used for memory locations are unique		N/A
R.2.2.8	The software is protected from user alteration of safety-related segments and data		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		N/A
R.3	Measures to avoid errors		-
R.3.1	General		-
	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		-
	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		N/A
R.3.2	Specification		-
R.3.2.1	Software safety requirements:	Software Id:	N/A
	The specification of the software safety requirements includes the descriptions listed		N/A
R.3.2.2	Software architecture		-

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Clause	Requirement + Test	Result - Remark	Verdict
R.3.2.2.1	The specification of the software architecture includes the aspects listed - 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:	N/A
R.3.2.2.2	The architecture specification is validated against the specification of the software safety requirements by static analysis		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		N/A
	Software module design and coding is implemented in a way that is traceable to the software architecture and requirements		N/A
R.3.2.3.2	Software code is structured		N/A
R.3.2.3.3	Coded software is validated against the module specification by static analysis		N/A
	The module specification is validated against the architecture specification by static analysis		N/A
R.3.3.3	Software validation		-
	The software is validated with reference to the requirements of the software safety requirements specification		N/A
	Compliance is checked by simulation of:		N/A
	- input signals present during normal operation		N/A
	- anticipated occurrences		N/A
	- undesired conditions requiring system action		N/A

TABLE R.1 e – GENERAL FAULT/ERROR CONDITIONS

Component <sub>a</sub>	Fault/error	Acceptable measures <sup>b, c</sup>	Definitions	Document reference for applied measure	Document reference for applied test	Verdict
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IEC 60335-2-40						
Clause	Requirement + Test		Result - Remark			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			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			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			N/A
3 Clock	Wrong frequency (for quartz synchroniz ed clock: harmonics/ sub-harmo nics only)	Frequency monitoring, or time slot monitoring	H.2.18.10.1 H.2.18.10.4			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			N/A
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			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			N/A
5 Internal data path	Stuck at	Word protection with single bit redundancy	H.2.19.8.2			N/A

IEC 60335-2-40						
Clause	Requirement + Test		Result - Remark			Verdict
5.1 VOID						N/A
5.2 Addressing	Wrong address	Word protection with single bit redundancy including the address	H.2.19.8.2			N/A
6 External communication	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			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			N/A
7 Input/output periphery	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13			N/A
7.1 VOID						N/A
7.2 Analog I/O						N/A
7.2.1 A/D and D/A-converter	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13			N/A
7.2.2 Analog multiplexer	Wrong addressing	Plausibility check	H.2.18.13			N/A
8 VOID						N/A

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Clause	Requirement + Test			Result - Remark		Verdict
9 Custom chips <sup>d</sup> e.g. ASIC, GAL, gate array	Any output outside the static and dynamic functional specification	Periodic self-test	H.2.16.6			N/A
<p>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.</p> <p>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.</p>						

<b>AA</b>	<b>ANNEX AA (INFORMATIVE) (IEC 60335-2-40) EXAMPLES FOR OPERATING TEMPERATURES OF THE APPLIANCE</b>	N/A
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<b>BB</b>	<b>ANNEX BB (NORMATIVE) (IEC 60335-2-40) SELECTED INFORMATION ABOUT REFRIGERANTS</b>	N/A
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<b>CC</b>	<b>ANNEX CC (INFORMATIVE) (IEC 60335-2-40) TRANSPORTATION, MARKING AND STORAGE FOR UNITS THAT EMPLOY FLAMMABLE REFRIGERANTS</b>	-
CC.1	Transport of equipment containing flammable refrigerants (IEC 60335-2-40)	N/A
CC.2	Marking of equipment using signs (IEC 60335-2-40)	N/A
CC.3	Disposal of equipment using flammable refrigerants (IEC 60335-2-40)	N/A
CC.4	Storage of equipment/appliances (IEC 60335-2-40)	N/A
CC.5	Storage of packed (unsold) equipment (IEC 60335-2-40)	N/A

<b>DD</b>	<b>ANNEX DD (NORMATIVE) (IEC 60335-2-40) INSTRUCTION MANUAL FOR SERVICING REFRIGERANT CONTAINING APPLIANCES</b>	-
DD.1	Symbols (IEC 60335-2-40)	N/A
DD.2.	Information in manual (IEC 60335-2-40)	N/A
DD.2.1	General (IEC 60335-2-40)	N/A
DD.2.2	Unventilated areas (IEC 60335-2-40)	N/A
DD.2.3	Qualification of workers (IEC 60335-2-40)	N/A
DD.3	Information on servicing (IEC 60335-2-40)	N/A

<b>IEC 60335-2-40</b>			
Clause	Requirement + Test	Result - Remark	Verdict
DD3.1	Checks to the area (IEC 60335-2-40)		N/A
DD.3.2	Work procedure (IEC 60335-2-40)		N/A
DD.3.3	General work area (IEC 60335-2-40)		N/A
DD.3.4	Checking for presence of refrigerant (IEC 60335-2-40)		N/A
DD.3.5	Presence of fire extinguisher (IEC 60335-2-40)		N/A
DD.3.6	No ignition sources (IEC 60335-2-40)		N/A
DD.3.7	Ventilated area (IEC 60335-2-40)		N/A
DD.3.8	Checks to the refrigeration equipment (IEC 60335-2-40)		N/A
DD.3.9	Checks to electrical devices (IEC 60335-2-40)		N/A
DD.4	Repairs to sealed components (IEC 60335-2-40)		N/A
DD.5	Repair to intrinsically safe components (IEC 60335-2-40)		N/A
DD.6	Cabling (IEC 60335-2-40)		N/A
DD.7	Detection of flammable refrigerants (IEC 60335-2-40)		N/A
DD.8	Leak detection methods (IEC 60335-2-40)		N/A
DD.9	Removal and evacuation (IEC 60335-2-40)		N/A
DD.10	Charging procedures (IEC 60335-2-40)		N/A
DD.11	Decommissioning (IEC 60335-2-40)		N/A
DD.12	Labelling (IEC 60335-2-40)		N/A
DD.13	Recovery (IEC 60335-2-40)		N/A

<b>EE</b>	<b>ANNEX EE (NORMATIVE) (IEC 60335-2-40)</b> <b>PRESSURE TESTS</b>		-
EE.1	General (IEC 60335-2-40)		P
EE.2	Pressure test value determined under testing carried out in clause 11 (IEC 60335-2-40)	10,5MPa	P
EE.3	Pressure test value determined under testing carried out in clause 19 (IEC 60335-2-40)	12MPa	P
EE.4	Pressure test value determined under testing carried out under standstill conditions (IEC 60335-2-40)	4,5MPa	P
EE.5	Fatigue test option for Clauses EE.1 and EE.4.1 (IEC 60335-2-40)		N/A

<b>IEC 60335-2-40</b>			
Clause	Requirement + Test	Result - Remark	Verdict

<b>FF</b>	<b>ANNEX FF (NORMATIVE) (IEC/EN 60335-2-40) LEAK SIMULATION TESTS</b>		-
FF.1	General (IEC 60335-2-40)		N/A
FF.2	Test methods (IEC 60335-2-40)		N/A

<b>GG</b>	<b>ANNEX GG (NORMATIVE) (IEC/EN 60335-2-40) CHARGE LIMITS, VENTILATION REQUIREMENTS AND REQUIREMENTS FOR SECONDARY CIRCUITS</b>		
GG.1	General (IEC 60335-2-40)		N/A
GG.2	Requirements for charge limits in unventilated areas (IEC 60335-2-40)		N/A
GG.3	Requirements for charge limits in areas with mechanical ventilation areas (IEC 60335-2-40)		N/A
GG.4	Requirements for mechanical ventilation within the appliance enclosure (IEC 60335-2-40)		N/A
GG.5	Requirements for mechanical ventilation for rooms complying with ISO 5149 (IEC 60335-2-40)		N/A
GG.6	Requirements for refrigeration systems employing secondary heat exchangers (IEC 60335-2-40)		N/A
GG.7	Additional testing (IEC 60335-2-40)		N/A
GG.8	Non-fixed factory sealed single package units with a charge amount of $m_1 < M \leq 2 \times m_1$ (IEC 60335-2-40)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC60335-2-40 Gulf Technical Regulation for Low Voltage Electrical Equipment and Appliances			
Annex 1 e	Must be taking into account the voltage and frequency of each Member State, as well as the type and shape of the plugs and socket outlets used in each state according to the following:		
	<b>United Arab Emirates :</b>		
	Rated voltage(V) : 230V/400V(+10%-6% )		N/A
	Frequency (Hz): 50 Hz ±0.5Hz(1%)		N/A
	Type and shape of the plugs and sockets:		N/A
	<b>Kingdom of Bahrain :</b>		
	Rated voltage(V) : 230V/400V(±6% )		N/A
	Frequency (Hz): 50 Hz ±0.5Hz(1%)		N/A
	Type and shape of the plugs and sockets:		N/A
	<b>Kingdom of Saudi Arabia :</b>		
	Rated voltage(V) : 127V/220V±5V For domestic and commercial use 220V/380V ±5V For industrial use		P
	Frequency (Hz): 60 Hz ± 0.1 Hz		P
	Type and shape of the plugs and sockets:		P
	<b>Sultanate of Oman :</b>		
	Rated voltage(V) : 240V/415V(±6% )		N/A
	Frequency (Hz): 50 Hz ±0.5Hz(1%)		N/A
	Type and shape of the plugs and sockets:		N/A
	<b>State of Qatar :</b>		
	Rated voltage(V) : 240V/415V(±6% )		N/A
	Frequency (Hz): 50 Hz ±0.5Hz(1%)		N/A



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Clause	Requirement + Test	Result - Remark	Verdict
	Type and shape of the plugs and sockets:		N/A
	<b>State of Kuwait :</b>		
	Rated voltage(V) : 240V/415V(±6%)		N/A
	Frequency (Hz): 50 Hz ±0.5Hz(1%)		N/A
	Type and shape of the plugs and sockets:		N/A
	<b>Republic of Yemen :</b>		
	Rated voltage(V) : 220V/400V(±6% )		N/A
	Frequency (Hz): 50 Hz		N/A
	Type and shape of the plugs and sockets:		N/A
Annex 1 f	Electrical equipment intended to operate in non-air-conditioned or external atmospheres shall be designed to work in those atmospheres commensurate with the weather conditions in the Member States.	Electrical equipment intended to operate in non-air-conditioned or external atmospheres Ambient temperature:43°C	P
<b>ATTACHMENT TO TEST REPORT IEC60335-2-40</b> <b>National Difference</b>			
	<b>National Difference for Kingdom of Saudi Arabia IEC60335-1 ed.5.0</b>		
	General requirements:		
	- When any HOUS standards ( including all parts of this standard) refer to this standard (IEC 60335-1), you need to consider this Saudi national differences .		P
	- Electrical Appliances which are fitted with a plug , the Plug shall comply with SASO 2203 and IEC 60083:2006 (SA2 only)		N/A
	- The standard voltages and frequency in Saudi Arabia are 220V ac and 230V ac , 60 Hz		P
	- Markings on the name plate shall be either in Arabic or English language.		P
	- Safety instructions and Manuals shall be in Arabic language.		P
	- Country of origin shall be shown on the marking plate.		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	<b>National Difference for United Arab Emirates ( REQUIREMENTS FOR REGISTRATION OF LOW VOLTAGE EQUIPMENT)</b>		
6.4	Compliance of the equipment plugs to:		
6.4.1	BS 1363. Plugs with earth and fuse for Class I Appliances		N/A
6.4.2	BS 1363 Plugs with a dummy plastic earth pin for Class II Appliances		N/A
6.4.3	BS 546 Plug Configurations for 15 Ampere Appliances.		N/A
6.5	Users Manual in Arabic and English language.		P
6.6	Country of Origin marking on the product .		P
6.7	Where applicable, compliance of the product to Tropical Climatic Conditions .		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict

10.1	TABLE: Power input deviation					P
Input deviation of/at:		P rated (W)	P measured (W)	dP	Required dP	Remark
MSTABE-18HRN1-NC5 /MSTABE-18CRN1-NC5 ( PA150M2AS-3KTM1 )		2100	1821.3	-13.2 %	+15%	Cooling
MSTABE-22CRN1-NC5 ( PA200G2CS-3KTM )		2650	2240.5	-15.5%	+15%	Cooling
MSTABE-22HRN1-NC5 (PA205G2CS-3KTM)		2800	2518.0	-10.7%	+15%	Cooling

10.1	TABLE: Power input deviation					P
Input deviation of/at:		P rated (W)	P measured (W)	dP	Required dP	Remark
MSTABE-18HRN1-NC5 /MSTABE-18CRN1-NC5 ( PA150M2AS-3KTM1 )		2100	1897.8	-10.0 %	+15%	Heatling
MSTABE-22CRN1-NC5 ( PA200G2CS-3KTM )		2650	2356.3	-11.1%	+15%	Heatling
MSTABE-22HRN1-NC5 (PA205G2CS-3KTM)		2800	2424.57	-13.4%	+15%	Heatling

10.2	TABLE: Current deviation					P
Current deviation of/at:		I rated (A)	I measured (A)	dI	Required dI	Remark
MSTABE-18HRN1-NC5 /MSTABE-18CRN1-NC5 ( PA150M2AS-3KTM1 )		10.6	8.45	-20.1%	+15%	Cooling
MSTABE-22CRN1-NC5 ( PA200G2CS-3KTM )		13.38	10.78	-19.43 %	+15%	Cooling
MSTABE-22HRN1-NC5 (PA205G2CS-3KTM)		14.10	11.06	-21.6 %	+15%	Cooling

10.2	TABLE: Current deviation					P
Current deviation of/at:		I rated (A)	I measured (A)	dI	Required dI	Remark
MSTABE-18HRN1-NC5 /MSTABE-18CRN1-NC5 ( PA150M2AS-3KTM1 )		10.6	9.48	-10.57%	+15%	Heatling
MSTABE-22CRN1-NC5 ( PA200G2CS-3KTM )		13.38	11.66	-12.86 %	+15%	Heatling
MSTABE-22HRN1-NC5 (PA205G2CS-3KTM)		14.10	10.65	-24.45 %	+15%	Heatling

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
11.8	TABLE: Heating test （MSTABE-18HRN1-NC5）		P
	Test voltage (V) ..... .....:	243.8	—
	Ambient (°C).....:	Cooling: Indoor DB: 32°C, WB:23°C Outdoor DB:52°C, WB:34°C heating: Indoor DB: 27°C, WB: —°C Outdoor DB:24°C, WB:18°C	—
Thermocouple locations		Max. temperature measured, T (°C)	Max. temperature limit, T (°C)
		Cooling mode	
Indoor unit			
Power cord	38.5	27.3	T75
Terminal block	36.7	34.5	T85
Transformer	51.1	48.4	110 (Class B)
Fan motor	33.6	31.5	105 (Class E)
Swing motor	34.3	30.2	100 (Class A)
PCB	36.2	35.1	145
Varistor	43.9	38.4	T85
Relay for compressor	43.6	39.0	T70
Relay for fan motor	57.3	46.6	T70
X2 Capacitor	40.6	38.6	T110
Enclosure	33.8	29.2	Ref.
Outdoor unit			
Terminal block	49.1	47.9	85
Lead wire of compressor	54.9	44.7	75
Surface of fan motor	63.1	60.7	110 (Class B)
Surface of compressor	105.5	83.6	Ref.
Discharge pipe	77.4	65.7	Ref.
Relay	44.1	34.2	85
4-way valve	61.9	59.7	110 (Class B)
Interconnection cord	54.1	32.3	75
Test floor	54.6	53.2	90
Supplementary information: --			

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict

11.8	TABLE: Heating test（MSTABE-22HRN1-NC5）			P
	Test voltage (V) ..... .....	243.8		—
	Ambient (°C).....	Cooling: Indoor DB: 32°C, WB:23°C Outdoor DB:52°C, WB:34°C heating: Indoor DB: 27°C, WB: —°C Outdoor DB:24°C, WB:18°C		—
Thermocouple locations		Max. temperature measured, T (°C)		Max. temperature limit, T (°C)
		Cooling mode	Heating mode	
Indoor unit				
Power cord	36.5	26.3	T75	
Terminal block	37.7	37.5	T85	
Transformer	51.1	48.4	110 (Class B)	
Fan motor	33.6	33.5	105 (Class E)	
Swing motor	33.3	33.2	100 (Class A)	
PCB	35.2	35.1	145	
Varistor	43.9	39.4	T85	
Relay for compressor	41.6	39.0	T70	
Relay for fan motor	56.3	49.6	T70	
X2 Capacitor	41.6	40.6	T110	
Enclosure	33.8	29.2	Ref.	
Outdoor unit				
Terminal block	49.1	48.9	85	
Lead wire of compressor	64.9	64.7	75	
Surface of fan motor	66.1	65.7	110 (Class B)	
Surface of compressor	115.5	83.6	Ref.	
Discharge pipe	78.4	67.7	Ref.	
Relay	44.1	34.2	85	
4-way valve	61.9	61.7	110 (Class B)	
Interconnection cord	54.1	32.3	75	
Test floor	53.6	53.2	90	
Supplementary information: --				

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict

11.8	<b>TABLE: Heating test, resistance method</b>					P
	Test voltage (V) .....			243.8		—
	Ambient, t1 (°C) .....			25.0		—
	Ambient, t2 (°C) .....			Cooling: Indoor DB: 32°C, WB:23°C Outdoor DB:52°C, WB:31°C		—
Temperature rise of winding		R1 (Ω)	R2 (Ω)	T (°C)	Max. T (°C)	Insulation class
Main winding of indoor fan motor ( Tongde electric : RPG45B(YKFG-45-4-13) )		94.1	102.6/102.7	49.02/48.74	120	B
Auxiliary winding of indoor fan motor ( Tongde electric : RPG45B(YKFG-45-4-13) )		126.9	137.5/137.5	48.68/48.68	120	B
Main winding of indoor fan motor ( Weilling : RPG45B(YKFG-45-4-13) )		84.9	109.7/108.5	100.5/104.39	120	B
Auxiliary winding of indoor fan motor ( Weilling : RPG45B(YKFG-45-4-13) )		116.2	148.5/150.2	100.5/104.43	120	B
Main winding of indoor fan motor ( Broad-Ocean : RPG45B(YKFG-45-4-13) )		78.1	87.5/87.6	56.61/56.94	120	B
Auxiliary winding of indoor fan motor ( Broad-Ocean : RPG45B(YKFG-45-4-13) )		113.17	126.81/127.0	56.69/57.15	120	B
Main winding of indoor fan motor ( Wolong : RPG45B(YKFG-45-4-13) )		67.73	86.9/86.9	98.4/98.7	120	B
Auxiliary winding of indoor fan motor ( Wolong : RPG45B(YKFG-45-4-13) )		69.1	86.4/86.5	90.3/90.6	120	B
Main winding of outdoor fan motor (Weilling: YDK60-6B(YKT-60-6-41) )		64.5	81.3/81.4	93.5/94.0	120	B
Auxiliary winding of outdoor fan motor (Weilling: YDK60-6B(YKT-60-6-41) )		77.5	96.7/96.8	90.2/90.5	120	B
Main winding of outdoor fan motor (Weilling: YDK60-6B(YKT-60-6-41) )		73.4	93.5/93.6	97.0/97.2	120	B
Auxiliary winding of outdoor fan motor (Weilling: YDK60-6B(YKT-60-6-41) )		77.0	97.1/97.2	93.5/93.9	120	B
Supplementary information: --						

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Clause	Requirement + Test	Result - Remark	Verdict
<b>13.2</b>	<b>TABLE: Leakage current</b> (MSTABE-18HRN1-NC5 cooling / heating mode)		<b>P</b>
	Heating appliances: 1,15 x rated input (W).....:	--	—
	Motor-operated and combined appliances: 1,06 x rated voltage (V).....:	243.8	—
Leakage current between		I (mA)	Max. allowed I (mA)
Live parts and the accessible metal parts (Class I construction)		0.273/0.265	4.2
Live parts and the accessible non-metal parts (Class II construction)		0.006/0.006	0.25
Supplementary information: --			

<b>13.2</b>	<b>TABLE: Leakage current</b> (MSTABE-22HRN1-NC5cooling / heating mode)		<b>P</b>
	Heating appliances: 1,15 x rated input (W).....:	--	—
	Motor-operated and combined appliances: 1,06 x rated voltage (V).....:	243.8	—
Leakage current between		I (mA)	Max. allowed I (mA)
Live parts and the accessible metal parts (Class I construction)		0.276/0.280	5.6
Live parts and the accessible non-metal parts (Class II construction)		0.008/0.008	0.25
Supplementary information: --			

<b>13.3</b>	<b>TABLE: Dielectric strength</b>		<b>P</b>
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Basic insulation		1000	No
Reinforced insulation		3000	No
Supplementary information: --			

<b>14</b>	<b>TABLE: Transient over voltages</b>					<b>N/A</b>
Clearance between:		CI (mm)	Required CI (mm)	Rated impulse voltage (V)	Impulse test voltage (V)	Flashover (Yes/No)

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
<b>16.2</b>	<b>TABLE: Leakage current</b>		<b>P</b>
	Single phase appliances: 1,06 x rated voltage (V) .....	---	---
	Three phase appliances 1,06 x rated voltage divided by $\sqrt{3}$ (V) .....	243.8V	---
Leakage current between		I (mA)	Max. allowed I (mA)
Live parts and the accessible metal parts (Class I construction)		0.278	5.6
Live parts and the accessible non-metal parts (Class II construction)		0.008	0.25
Supplementary information: --			

<b>16.3</b>	<b>TABLE: Electric strength</b>		<b>P</b>
Test voltage applied between:		Voltage (V)	Breakdown (Yes/No)
Live parts and the accessible metal parts (basic insulation)		1250	No
Live parts and the accessible parts (reinforce insulation)		3000	No
Supplementary information: --			

<b>17</b>	<b>TABLE: Overload protection</b>		<b>N/A</b>
Thermocouple locations		Max. temperature rise measured, $\Delta T$ (K)	Max. temperature rise limit, $\Delta T$ (K)
Supplementary information: --			

<b>17</b>	<b>TABLE: Overload protection, resistance method</b>					<b>N/A</b>
	Test voltage (V) .....		---		---	
	Ambient, t1 (°C) .....		---		---	
	Ambient, t2 (°C) .....		---		---	
Temperature of winding		R1 ( $\Omega$ )	R2 ( $\Omega$ )	$\Delta T$ (K)	T (°C)	Max. T (°C)
Winding of transformer		---	----	---	----	----
Supplementary information:						



IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict

<b>19</b>	<b>Abnormal operation conditions</b>						<b>P</b>
Operational characteristics		YES/NO	Operational conditions				
Are there electronic circuits to control the appliance operation?		YES	--				
Are there "off" or "stand-by" position?		YES	--				
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	--	--	--	--	--	--	N/A
19.3	--	--	--	--	--	--	N/A
19.4	--	--	--	--	--	--	P
19.5	--	--	--	--	--	--	N/A
19.6	--	--	--	--	--	--	N/A
19.7	--	--	--	--	--	--	P
19.8	--	--	--	--	--	--	N/A
19.9	--	--	--	--	--	--	N/A
19.10	--	--	--	--	--	--	N/A
19.11.2	--	--	--	--	--	--	P
19.11.4.8	--	--	--	--	--	--	N/A
19.101	--	--	--	--	--	--	P
19.103	--	--	--	--	--	--	P
Supplementary information: -							

<b>19.4</b>	<b>Abnormal operation conditions</b>		<b>P</b>
Failure description		Effect	Verdict
disconnection and reconnection of one phase of the supply(L disconnection)		When disconnection the L pole,the appliance is not running, after reconnection,the appliance is running.	P
open-circuiting relay for indoor unit		The indoor fan motor is not running.	P
Supplementary information: --			

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict

<b>19.7</b>	<b>Abnormal operation conditions – locked rotor test other than motor-compressors and stationary circulation pumps in compliance with IEC 60335-2-51</b>				<b>P</b>
	Ambient, t1 (°C):	25.0			—
	Ambient, t2 (°C):	25.0			—
	Test voltage (V) :	230.0			—
Temperature limit T of winding:		R <sub>1</sub> (Ω)	R <sub>2</sub> (Ω)	Measured T (°C)	Limit T (°C)
fan motor winding (Tongde electric: RPG45B(YKFG-45-4-13))		94.1	110.3	69.7	225
fan motor winding (Weilling: RPG45B(YKFG-45-4-13 ) )		84.9	102.4	78.5	225
fan motor winding (Broad-Ocean: RPG45B(YKFG-45-4-13 ) )		78.1	87.6	56.6	225
fan motor winding (Wolong: RPG45B(YKFG-45-4-13 ) )		67.73	80.5	73.9	225
fan motor winding ((Weilling: YKT-63-6-200L))		64.5	79.3	84.5	225
fan motor winding ((Weilling: YDK60-6B(YKT-60-6-41))		73.4	93.4	95.7	225

19.7	TABLE: electric strength measurements after 72 hours			P
Test voltage applied between:		Test voltage (V)	Breakdown Yes / No	
L/N and accessible metal parts		1250	No	

19.7	TABLE: leakage current measurements after 72 hours			P
	A voltage equal to twice the rated voltage (V) :	460		—
Leakage current I between :		I (mA)	Required I (mA)	
Outdoor Fan motor		0.06	5.6	

IEC 60335-2-40					
Clause	Requirement + Test			Result - Remark	Verdict
<b>19.7</b>	<b>Abnormal operation conditions – Locked rotor test motor-compressor</b>				<b>P</b>
	Motor-compressor.....:	PA150M2AS-3KTM1			
	Start device .....	-			
	Protector.....:	UP3-63H			
	Start capacitor .....	-			
	Run capacitor .....	450VAC; 35 $\mu$ F			
	Cooling; (static); (fan-m <sup>3</sup> /h); (oil); .....	Static			
	Thermal motor-protection system .....	Self-resetting			
		Self-resetting			Manually reset
Rated voltage		Vn max (V)			Vn min (V)
		After 72 h	After 288 h	After 360 h	After 363 h
					After 50 cycles
High-voltage test (see 16.3)		P	-	-	-
Leakage current (mA) (see 16.2)		-	-	0.161	-
Electric strength (see 13.3)		-	-	P	-
Room temperature (°C) (20 $\pm$ 5°C)		25	25	25	-
Number of cycles ( $\geq$ 2000 or 50)		-	-	2000	-
Housing temperature (°C) ( $\leq$ 150°C)		-	-	92.6	-
supplementary information:--					
<b>19.7</b>	<b>Abnormal operation conditions – Locked rotor test motor-compressor</b>				<b>P</b>
	Motor-compressor.....:	PA200G2CS-3KTM			
	Start device .....	-			
	Protector.....:	UP3-66H			
	Start capacitor .....	-			
	Run capacitor .....	450VAC VAC; 55 $\mu$ F			
	Cooling; (static); (fan-m <sup>3</sup> /h); (oil); .....	Static			
	Thermal motor-protection system .....	Self-resetting			
		Self-resetting			Manually reset
Rated voltage		Vn max (V)			Vn min (V)
		After 72 h	After 288 h	After 360 h	After 363 h
					After 50 cycles
High-voltage test (see 16.3)		P	-	-	-
Leakage current (mA) (see 16.2)		-	-	0.161	-
Electric strength (see 13.3)		-	-	P	-
Room temperature (°C) (20 $\pm$ 5°C)		25	25	25	-
Number of cycles ( $\geq$ 2000 or 50)		-	-	2000	-
Housing temperature (°C) ( $\leq$ 150°C)		-	-	92.6	-
supplementary information:--					
<b>19.7</b>	<b>Abnormal operation conditions – Locked rotor test motor-compressor</b>				<b>P</b>

IEC 60335-2-40						
Clause	Requirement + Test			Result - Remark		Verdict
	Motor-compressor..... :			PA205G2CS-3KTM		
	Start device ..... :			-		
	Protector..... :			UP3-66H		
	Start capacitor ..... :			-		
	Run capacitor ..... :			450VAC VAC; 55 µF		
	Cooling; (static); (fan-m <sup>3</sup> /h); (oil); ..... :			Static		
	Thermal motor-protection system ..... :			Self-resetting		
		Self-resetting				Manually reset
Rated voltage		Vn max (V)			Vn max (V)	Vn min (V)
		After 72 h	After 288 h	After 360 h	After 363 h	After 50 cycles
High-voltage test (see 16.3)		P	-	-	-	-
Leakage current (mA) (see 16.2)		-	-	0.161	-	-
Electric strength (see 13.3)		-	-	P	-	-
Room temperature (°C) (20 ± 5°C)		25	25	25	-	-
Number of cycles (≥ 2000 or 50)		-	-	2000	-	-
Housing temperature (°C) (≤ 150°C)		-	-	92.6	-	-
supplementary information:--						

IEC 60335-2-40					
Clause	Requirement + Test			Result - Remark	Verdict
19.11.2	Abnormal Operation				P
Fault condition		Short circuit	Open circuit	Effect	Verdict
Open circuit at terminal of any component(relay of indoor unit)		No	Yes	The indoor fan motor does not work.	P
Short circuit of capacitors		Yes	No	Fuse operates	P
Short circuit of any two terminals of an electronic component, other than integrated circuits		Yes	No	The appliane does not work	P

19.13	TABLE: Abnormal operation, temperature rises			P
Thermocouple locations		Max. temperature rise measured, Δ T (K)	Max. temperature rise limit, Δ T (K)	
Supply cord		37.8	175	
Test corner		73.3	175	
Supplementary information: --				

19.101-104	Abnormal operation conditions		P
Subclause		Effect	Verdict
19.101		The protection devices operates	P
19.102		--	N/A
19.103		The protection devices operates	P
19.104		The protection devices operates	N/A
Supplementary information: --			

21.1	TABLE: Impact resistance			P
Impacts per surface		Surface tested	Impact energy (Nm)	Comments
3		Display panel	0.5	No damage
3		Plastic enclosure	0.5	No damage
3		Outdoor unit griller	0.5	No damage
Supplementary information: -				

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict

24.1	TABLE: Components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity	
Power cord	Chau'S Electrical Co., Ltd.	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 113934	
(Alternative)	Huasheng Eletrical Industrial Co., Ltd (Wasung)	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40005362	
(Alternative)	Huasheng Eletrical Industrial Co., Ltd (Wasung)	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 133737	
(Alternative)	Ningbo Linght – Heavy Electronics Technology Co Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40007592	
(Alternative)	Kai Hua Electric Appliance Co., Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40001903	
(Alternative)	Changzhou Hongchang Electronics Co., Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 124978	
(Alternative)	Changzhou Hongchang Electronics Co., Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40016696	
(Alternative)	Awin Wire & Cable Co Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40023114	
(Alternative)	Phino Electric Co., Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 72576	
(Alternative)	Volex	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40022259	
(Alternative)	Chang Zhou Wujin Xuexiang Telecommunicatio n Component Factory	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40016696	
(Alternative)	Guangzhou Panyu Cable Group Co., Ltd.	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	EN 50525-2-11	VDE 40016252	
(Alternative)	Guangzhou Panyu Cable Group Co., Ltd.	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	EN 50525-2-11	VDE 40031051	

IEC 60335-2-40					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Wasung	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40005362
(Alternative)	Weihai Hongling Electronic Co.,Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40022785
(Alternative)	Sinofair (Hong Kong) Ltd.	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 125483
(Alternative)	Wuhu Shuncheng Electronics Co., Ltd.	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40023649
(Alternative)	Apollo	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40029037
(Alternative)	Changzhou Hongchang Electronics Co., Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 124978
(Alternative)	Kai Hua Electric Appliance Co., Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 4001903
(Alternative)	Ningbo Linght – Heavy Electronics Technology Co Ltd	H05VV-F H05V2V2-F 60227 IEC 53 60227 IEC 57	3G 2,5 mm <sup>2</sup>	IEC 60227-5	VDE 40035166
Indoor Controller	Gd Midea Air- Conditioning Equipment Co., Ltd.	ME- KT3FR53G/Y- ABE.JD.GN. WXNK.NK2.1( T3/PRO)a(E 0)	220-230VAC; 60Hz	IEC 60335-2-40 IEC 60335-1	Test with appliance
(Alternative)	Gd Midea Air- Conditioning Equipment Co., Ltd.	ME- KT3F70G/Y- ABE.JD.GN. WXNK.NK2.1( no-T3)	220-230VAC; 60Hz	IEC 60335-2-40 IEC 60335-1	Test with appliance
Indoor fan motor	Guangdong Welling Motor Manufacturer Co.,Ltd.	RPG45B(YKF G-45-4-13)	220-240VAC; 60 Hz; 45W; Class B;	IEC 60335-2-40	Test with appliance
(Alternative)	Zhongshan Broad- Ocean Motor Co.,Ltd	RPG45B(YKF G-45-4-13)	220-240VAC; 60 Hz; 45W; Class B;	IEC 60335-2-40	Test with appliance
(Alternative)	Zhuhai city Tongde electric equipment co.,ltd	RPG45B(YKF G-45-4-13)	220-240VAC; 60 Hz; 45W; Class B;	IEC 60335-2-40	Test with appliance
(Alternative)	Zhejiang Wolong Home Appliance Motor co.,ltd	RPG45B(YKF G-45-4-13)	220-240VAC; 60 Hz; 45W; Class B;	IEC 60335-2-40	Test with appliance

IEC 60335-2-40					
Clause	Requirement + Test		Result - Remark		Verdict
Fan motor protector	Jiansu Changsheng Electric Appliance Co., Ltd	BR-A	250VAC; 6A; Tf:130° , cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40015893
(Alternative)	Changzhou City Tong Li Electron & Electric Appliance Factory	KW-A2	AC250V 6A; Tf:130°C , cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40020906
(Alternative)	Sensata Technologies China Co., Ltd	8CM	AC277V 8A Tf:130°C , cycles: 3000	IEC 60730-1 IEC 60730-2-2	KEMA 2014531
(Alternative)	Sensata Technologies China Co., Ltd	17AM	277VAC; 8A; Tf:130°C , cycles: 3000	IEC 60730-1 IEC 60730-2-2	KEMA 2014531
(Alternative)	Sensata Technologies China Co., Ltd	6AM	AC250V 6A; Tf:130°C , cycles: 3000	IEC 60730-1 IEC 60730-2-2	ENEC 2151681.01
(Alternative)	Jiansu Changsheng Electric Appliance Co., Ltd	18AM-B	AC277V 8A; Tf:130°C , cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40022813
(Alternative)	Changhong tongli	KW-C2-series	250VAC; 6A; Tf:130°C , cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40004418
(Alternative)	Shengzhou Galina Wangshi Thermal Protector Factory	JW-series	250VAC; 5A; Tf:130°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40006013
(Alternative)	Sensata Technologies China Co., Ltd	BW	250VAC; 6A; Tf:130°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40013915
(Alternative)	Wujin Control Electrical Appliances Plant	BW series	AC250V; 8A; Tf: 130°C; cycles : 3000	IEC 60730-1 IEC 60730-2-2	VDE 107747
(Alternative)	Changzhou Newzone Desheng Electric Appliance Co., Ltd	BR series	AC250V; 8A; Tf: 130°C; cycles : 3000	IEC 60730-1 IEC 60730-2-2	VDE 132813
(Alternative)	Changzhou Newzone Desheng Electric Appliance Co., Ltd	BR-A	250VAC; 6A; 130°C; operate cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 132813
Fan motor capacitor	Panasonic Electronic Devices (Jiangmen) Co., Ltd.	451 series	450VAC; 50/60Hz; P2; B; 3 μF; T70°C	EN/IEC 60252-1	TUV Rh 50145353
(Alternative)	Sheng Ye Electrical Co., Ltd.	C61-P2	450VAC; 3 μF; P2; Class C; T85°C	EN/IEC 60252-1	TUV SUD 13 12 73204 010
(Alternative)	Shanghai haoye electric Co., Ltd.	MKP-1 series	450VAC; 50/60Hz; Class B; 3 μF; T85°C; S3	EN/IEC 60252-1	VDE 40023685
(Alternative)	Shanghai haoye electric Co., Ltd.	MKP-2 series	450VAC; 50/60Hz; Class B; 3 μF; T85°C; P2	EN/IEC 60252-1	TUV 50272575
(Alternative)	Shunde Kesheng Electronic Co., Ltd	CBB61S	450VAC; 50/60Hz; Class B; 3 μF; P2	EN/IEC 60252-1	TUV Rh R50276081



IEC 60335-2-40					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Guangdong Shuntai Capacitors & Electrical Equipment Co., Ltd (ST)	CBB61A	450VAC; 50/60Hz; Class B; 3 $\mu$ F; T70°C; P2	EN/IEC 60252-1	TUV Rh R50268803
(Alternative)	guangdong fengming electronic tech. Co., Ltd.	CBB61-P2	450VAC; 50/60Hz; 3 $\mu$ F; P2; B; T70°C or 85°C	EN/IEC 60252-1	TUV Rh R50274996
(Alternative)	Xiamen faratronic Co., Ltd	CBB61-S3	450VAC; 50/60Hz; S3; 3 $\mu$ F; B; T70°C or 85°C	EN/IEC 60252-1	TUV Rh R50266163
Step motor	Changchou Leili Electrical Equipment Co., Ltd.	MP30EA10(S M-30-17-12-14)	DC 12 V, Class E	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Changzhou Ouck Electric Co., Ltd	MP30EA10(S M-30-17-12-14)	DC 12 V, Class E	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Foshan Shunde Hengxing Micro Motor Co., Ltd	MP30EA10(S M-30-17-12-14)	DC 12 V, Class E	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Huilip Motor Co., Ltd.	MP30EA10(S M-30-17-12-14)	DC 12 V, Class E	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Jiangsu Huayang Electric Co., Ltd	MP30EA10(S M-30-17-12-14)	DC 12 V, Class E	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Taishan City Kexinte Motor Products Co., Ltd	MP30EA10(S M-30-17-12-14)	DC 12 V, Class E	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
Indoor transformer	Shunde Zhanliang Ind. Co., Ltd.	TF2-G55-1F or TF220-EI41-10.5/55-F5	EI 41X26,5; 220-240VAC; output: 10,5VAC/550mA; Class B	EN/IEC 60335-1 EN/IEC 60335-2-40	Test with appliance
(Alternative)	Dazhong electronic Co., Ltd.	TF2-G55-1F or TF220-EI41-10.5/55-F5	EI 41X26,5; 220-240VAC; output: 10,5VAC/550mA; Class B	EN/IEC 60335-1 EN/IEC 60335-2-40	Test with appliance
(Alternative)	Shunde WanXin Electronic & Electrical Co., Ltd.	TF2-G55-1F or TF220-EI41-10.5/55-F5	EI 41X26,5; 220-240VAC; output: 10,5VAC/550mA; Class B	EN/IEC 60335-1 EN/IEC 60335-2-40	Test with appliance
(Alternative)	Zhongshan Coin Electronics Co., Ltd. (Maanshan Coiner Electronics Co Ltd)	TF2-G55-1F or TF220-EI41-10.5/55-F5	EI 41X26,5; 220-240VAC; output: 10,5VAC/550mA; Class B	EN/IEC 60335-1 EN/IEC 60335-2-40	Test with appliance
Thermal link built in transformer	Aupo Ele. Ltd.	A8 series	2A; 150°C; 250VAC	EN/IEC 60691	VDE 40001155
(Alternative)	Set Electronics Co., Ltd	K7	2A; 150°C; 250VAC	EN/IEC 60691	VDE 40002355
Fuse	Hollyland Co., Ltd.	50T	T: 3,15AL;250 VAC	IEC 60127-1 IEC 60127-2	VDE 40014460

IEC 60335-2-40					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Hollyland Co., Ltd.	50CT	T: 3,15AL;250 VAC	IEC 60127-1 IEC 60127-2	VDE 40014896
(Alternative)	Wickmam -Werke Gmbh	195	T: 3,15AL;250 VAC	IEC 60127-1 IEC 60127-2	VDE 40005868
(Alternative)	Suzhou Littlefuse Ovs Ltd.	618 series	T: 3,15AL;250 VAC	IEC 60127-1 IEC 60127-2	VDE 40014776
(Alternative)	Shanghai Songshan Electronic Co., Ltd.	RT1-20; (5T)	T: 3,15AL;250 VAC	IEC 60127-1 IEC 60127-2	VDE 138756
(Alternative)	Dongguan Better Electronic Technology Co Ltd	522	T: 3,15AL;250 VAC	IEC 60127-1 IEC 60127-2	VDE 40019022
(Alternative)	Walter Electronic Co., Ltd.	TSD series	T: 3,15AL;250 VAC	IEC 60127-1 IEC 60127-2	VDE 40016851
(Alternative)	Shanghai Songshan Electronic Co., Ltd	RT1	T; 3,15AL; 250VAC	IEC 60127-1 IEC 60127-2	VDE 40014460
(Alternative)	Conquer Electronics Co., Ltd.	UTE 3.15	3,15A/250VAC	IEC 60127-1 IEC 60127-2	VDE 40008019
(Alternative)	Conquer Electronics Co., Ltd.	UTE-AL3.15	3,15A/250VAC	IEC 60127-1 IEC 60127-2	VDE 40008019
Indoor unit terminal block	Zhong Shan Shi Jointec Electronics Co., Ltd	RS9103C-5	450VAC 4 mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Foshan Shunde Yuanfeng Metal Electrictrical Appliances Co., Ltd.	JXZ-PG9H-A	450VAC 4 mm2	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Foshan Shunde Yuanfeng Metal Electrictrical Appliances Co., Ltd.	YF2004	450V 4mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Changzhou Chanchenc Kaidu Electric Products Co., Ltd	JX-PF-5	250V 4mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Yueqing Jing Grid Electric Co., Ltd.	JGD-ZR5-P-1	250V 4 mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
Outdoor unit terminal block	Zhong Shan Shi Jointec Electronics Co., Ltd	RS9101-4	450VAC 4 mm <sup>2</sup>	IEC/EN 60335-1 IEC/EN 60335-2-40	Test with appliance
(Alternative)	Foshan Shunde Yuanfeng Metal Electrictrical Appliances Co., Ltd.	YF2001	660V 4 mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Changzhou Chanchenc Kaidu Electric Products Co., Ltd.	JX-B-4P	450V 4mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance

IEC 60335-2-40					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Yueqing Jing Grid Electric Co., Ltd.	JGD-ZR4-W-1	660V 4 mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Yueqing Jing Grid Electric Co., Ltd.	JGD-ZR3-W-1	660V/4 mm <sup>2</sup>	IEC/EN 60335-1 IEC/EN 60335-2-40	Test with appliance
(Alternative)	Zhong Shan Shi Jointec Electronics Co., Ltd	RS9211K	450VAC 4 mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Foshan Shunde Yuanfeng Metal Electricrical Appliances Co., Ltd.	YF2003B	450V 4mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Changzhou Chanchenc Kaidu Electric Products Co., Ltd	JX-O-a	450V 4mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
(Alternative)	Yueqing Jing Grid Electric Co., Ltd.	JGD-ZR2-B-2	660V 4 mm <sup>2</sup>	EN/IEC 60335-2-40 EN/IEC 60335-1	Test with appliance
Relay	Yueqing Meishuo Electric Co., Ltd.	MPQ4-S-112D-A	240VAC/30A, T85 °C; 100,000 cycles	EN/IEC 61810-1	TUV Rh R50184977
(Alternative)	Wangrong Electronics(Shenzhen)Co.,Ltd.	RA2-112LM	250VAC/30A,T85 °C; 100,000 cycles	EN/IEC 61810-1	TUV Rh R50228669
(Alternative)	Dongguan Sanyou Electrical Appliances Co., Ltd.	SLI-S-112DMK	30A,240VAC, T85 °C; 100,000 cycles	EN/IEC 61810-1	TUV Rh R50143450
(Alternative)	Xiamen Hongfa Electroacoustic Co., Ltd.	HF2160-1A-12D	277VAC; 30A; T mark: 85°C; 100,000 cycles	EN/IEC 61810-1	TUV Rh
(Alternative)	Shanghai Songchuan Electronic Industrial Co., Ltd.	855AWP-1A-C2	240VAC; 30A; T mark:85°C; 100,000 cycles	EN/IEC 61810-1	TUV Rh
(Alternative)	Dongguan Churod Electronics Co., Ltd	CHS02-V-112LA	30A 277VAC; 100,000 cycles	EN/IEC 61810-1	TUV R50271657
(Alternative)	WangRong Electronics (Shenzhen) Co., Ltd.	RC-112DM1	250VAC 30A, T85; 100,000 cycles	EN/IEC 61810-1	TUV R5022064
Relay II	Chengdu Tongda Relay Manufacture Co., Ltd.	JZC-8F	5A; 250VAC; T70°C; 100000 cycles	EN/IEC 61810-1	TÜV Rh R 02156493
(Alternative)	Dongguan Churod Electronics Co.,Ltd	A1-V-112DA	5A; 250VAC; T85°C; 100000 cycles	EN/IEC 61810-1	TÜV RhR 50174892
(Alternative)	Dongguan Churod Electronics Co., Ltd.	CHM-V-112DA3	5A;250VAC;T90 °C; operation cycles:100000	EN/IEC 61810-1	TÜV RhR 50196152
(Alternative)	Dongguan Churod Electronics Co., Ltd.	CHW-V-112DC2	5A;250VAC; T90 °C; cycles: 100000	EN/IEC 61810-1	TÜV RhR 50232867

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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Dongguan Sanyou Electrical Appliances Co., Ltd	SRB-S-112DM (SRB-SH-112DM1)	5A; 277VAC; T mark: 85°C; 100000	EN/IEC 61810-1	TÜV Rh R50138320
(Alternative)	Dongguan Sanyou Electrical Appliances Co., Ltd.	SJ-S-112DM	5A; 250VAC; 100000cycle; T85°C	EN/IEC 61810-1	VDE40007793
(Alternative)	Dongguan Sanyou Electrical Appliances Co., Ltd.	SJ-S-112DM(G)	5A; 250VAC; T85°C; 100000 cycles	EN/IEC 61810-1	TÜV RhR 50031793
(Alternative)	Dongguan Sanyou Electrical Appliances Co., Ltd.	SRD-S-112D	240VAC/5A 100K cycles, T85;	EN/IEC 61810-1	TÜV Rh R50142424
(Alternative)	Oeg (Tyco Electronics Ec K K.)	OJE-SS-112DM	5A; 250VAC; T mark: 70°C; 100000	EN/IEC 61810-1	TÜV Rh R40005414
(Alternative)	Omron Corporation.	G5NB-1A-E	5A; 250VAC; T85; 100000 cycles	EN/IEC 61810-1	VDE 137575
(Alternative)	Shanghai Songchuan Electronic Industrial Co., Ltd.	307-1AH-C	5A; 250VAC; T mark: 70°C; 100000	EN/IEC 61810-1	TÜV Rh R50128391
(Alternative)	Shanghai Songchuan Electronic Industrial Co., Ltd.	833H-1C-C	5A; 250VAC; T mark: 70°C; 100000	EN/IEC 61810-1	TUV RH R 50003996
(Alternative)	Song Chuan Precision Co., Ltd.	891WP-1A-C(BP)	5A; 250VAC; T mark: 85°C; 100000	EN/IEC 61810-1	TUV RH R 50003996
(Alternative)	Tyco Electronics Ec K.K.	PCJ-112D3M	12VDC; 5A; 250VAC; operate cycles: 1E5, T mark: 90°C	EN/IEC 61810-1	VDE40009151
(Alternative)	Wangrong Electronics (Shenzhen) Co., Ltd	RJ-SS-112DM	5A; 250VAC; T80°C; 100000 cycles	EN/IEC 61810-1	TÜV Rh50222701
(Alternative)	Wangrong Electronics (Shenzhen) Co., Ltd	RJ-SS-112DM1	5A; 250VAC; T85°C; 100000 cycles	EN/IEC 61810-1	TÜV Rh50222701
(Alternative)	Wangrong Electronics(Shenzhen) Co., Ltd	RC-112DM1	5A; 250VAC; T80°C; 100000 cycles	EN/IEC 61810-1	TÜV RhR 50220640
(Alternative)	Xiamen Hongfa Electroacoustic Co., Ltd.	JQC-3FF	240VAC/5A 100K cycles,	EN/IEC 61810-1	TÜV Rh R2034012
(Alternative)	Xiamen Hongfa Electroacous Tic Co Ltd	HF46F/12-HS1	5A; 250VAC; T mark: 70°C; 100000	EN/IEC 61810-1	VDE 40025215
(Alternative)	Xiamen Hongfa Electroacoustic Co., Ltd.	HF46F/12HS1	5A; 250VAC; T70°C; 100000 cycles	EN/IEC 61810-1	VDE40025215

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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Xiamen Hongfa Electroacoustic Co., Ltd.	JZC-32F	5A; 250VAC; operation cycles: 100000cycles, T70°C	EN/IEC 61810-1	VDE400241 42
(Alternative)	Yueqing Meishuo Electric Co., Ltd	MPD-S-112-A-2 (MPD-S-112-A)	5A; 250VAC; T105°C; 100000	EN/IEC 61810-1	TÜV Rh R50184948
(Alternative)	Yueqing Meishuo Electric Co., Ltd	MPR-S-112-A	5A;250VAC; T85°C; operation cycles:100000	EN/IEC 61810-1	TÜV RhR 50217035
(Alternative)	Zhejiang Huigang Electroacoustic Co., Ltd.	HRS3-SDC 12V-A	5A; 250VAC; T mark: 70°C; 100000	EN/IEC 61810-1	TÜV Rh R50098412
(Alternative)	Nanjing Hongcheng Electric Co., Ltd.	HJ-S-112DM-5A	5A; 250VAC; T85°C; 100000 cycles	EN/IEC 61810-1	TÜV Rh R50258455
(Alternative)	Dongguan Sanyou Electrical Appliances Co., Ltd..	JDQ-SS-112V	5A/250VAC; T85°C; 100000 cycles	EN/IEC 61810-1	TUV:R50138 320
(Alternative)	Panasonic Industrial Devices Sales (China) Co., Ltd. Shenzhen Branch	ALDP112W	5A 277V AC; T85°C; 100000 cycles	EN/IEC 61810-1	VDE 40014384
(Alternative)	Tyco Electronics (Shenzhen) Co., Ltd.	PCJ-112D3M	5A/250VAC; T85°C; 100000 cycles	EN/IEC 61810-1	VDE 1146900-0009
Varistor	Ceramate Techn. Co., Ltd	GNR14D681K (GNR14D681 KM)	680V; T85	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 5938
(Alternative)	Centra Science Corp.(Cnju)	CNR-14D681K (CNJU 14D681K-M)	680V; T85	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008220
(Alternative)	Xian Xiwuer Electronic & Info Co., Ltd.	MYG3-14K681 (MYG314K420)	680V; T85	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008528
(Alternative)	Foshan Kestar Electronic Co., Ltd.	MYG14-681 (MYN14-681A)	680V; T85	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40005616
(Alternative)	Centra Science Corp.(Cnju)	CNJU 14D681K-M	680V; T85	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 127029
(Alternative)	Foshan Kexin Electrical Appliances Co., Ltd	KVR MYN14-681A	680V; T85	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40005616
(Alternative)	Epcos (Zhuhai Ftz) Co., Ltd.	14D681K-M (S14 K420)	AC420V; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40027582
(Alternative)	Nanjing Shagon Electronics Co., Ltd	MYG14K 681M(MYG14 K 681)	AC680V; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	TUV SUD Z1 12 03 797 12001

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(Alternative)	Foshan Kestar Electronic Co.	14D681K-M (CNR(OLD))	AC50-300V; 50A; T85 °C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40005616
(Alternative)	Globe Electronic Corp. Action Electronics Co., Ltd.	14D681K-M	350-1000VAC; 50A; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE
(Alternative)	Panasonic	E14681	680V; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40035231
(Alternative)	Guangxi New Future Information Industry Co., Ltd	14D681K	680V; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40030322
(Alternative)	Guangxi New Future Information Industry Co., Ltd	14D681K-K	680V; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40030322
(Alternative)	Guangxi New Future Information Industry Co., Ltd	14D681K-M(CNR(OLD))	680V; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40030322
(Alternative)	Centra Science Corp.(Cnju)	CNR-14D581K (CNJU 14D581K-M or CNJU 14D581K-K)	AC50-680V; 50A; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE
(Alternative)	Ceramate Technical Co., Ltd	GNR14D581K (GNR14D581 KM)	AC350-1000V; 50A; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE
(Alternative)	Guangxi New Future Information Industry Co., Ltd	NFC14D581K (NFC14D581 KM)	AC50-680V; 50A; T85°C	IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE
X2 capacitor	Anhui Xinyang Electronics Co., Ltd.	MPX / MPK / MKP	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40024537
(Alternative)	Xiamen Faratronic Co. Ltd.	MKP61	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40007424
(Alternative)	Xiamen Faratronic Co. Ltd.	MKP62	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40000358
(Alternative)	Ultra Tech Xiphi Enterprise Co Ltd	HQX	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40024534
(Alternative)	Jimson Electronics(Xia Men)Co., Ltd	MKP	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40000463
(Alternative)	Shunde Da Hua Electric Co., Ltd	HD-Series	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40027182
(Alternative)	Epcos	MPX/MKP	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40010694
(Alternative)	Xinyuan Electronic Co., Ltd	MPX/MKP	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40027433

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(Alternative)	Shanghai Xiangriya Electronic Co., Ltd (Xry)	MPX/MKP	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40001876
(Alternative)	Shanghai Xiangriya Electronic Co., Ltd (Xry)	MPX/MKP	275VAC; 224K; 474K; T 85°C or above; X2	EN/IEC 60384-14	VDE 40001876
Compressor1 (MSTABE-18HRN1-NC5 /MSTABE-18CRN1-NC5 )	Guangdong Meizhi Compressor Limited	PA150M2AS-3KTM1	230V; 60Hz; R410a	IEC/EN 60335-2-34	TUV R: 50140792
Compressor2 (MSTABE-22CRN1-NC5 / MSTABE-22HRN1-NC5)	Guangdong Meizhi Compressor Limited	PA200G2CS-3KTM	230V; 60Hz; R410a	IEC/EN 60335-2-34	TUV R: 50140792
Compressor 3 (MSTABE-22CRN1-NC5 / MSTABE-22HRN1-NC5)	Guangdong Meizhi Compressor Limited (GMCC)	PA205G2CS-3KTM1	220-230V; 60Hz; R410a	IEC/EN 60335-2-34	TUV R: 50140792
Compressor capacitor1	Anhui Feida Industry Stock Co., Ltd.	CBB65A-1	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	VDE112776
(Alternative)	Anhui Juan Kuang Electric Co., Ltd	CBB65	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50101980
(Alternative)	Anhui Tong Feng Electronics Co., Ltd.	CBB65	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	VDE121116
(Alternative)	Anhui Xinyang Electronics Co., Ltd.	CBB65	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50209492
(Alternative)	Guangdong Shuntai Capacitors & Electrical Equipment Co. Ltd	CBB65A	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50045679
(Alternative)	Ningbo Shine Electric Co., Ltd	CBB65A-1 or CBB65A	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50014642
(Alternative)	Panasonic Electronic Devices(Jiangmen ) Co., Ltd.	SH-D	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50145374
(Alternative)	Shanghai Haoye Capacitors Co., Ltd	CBB65A	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50035566
(Alternative)	Shanghai Haoye Capacitors Co., Ltd	MKPC306 or MKPC256	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50037175
(Alternative)	Wuhu City Jinxin Electronics Co., Ltd.	CBB65	35 µF; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	VDE128580

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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Wuxi Hongguang Capacitor Co., Ltd.	CBB65	35 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50165370
(Alternative)	Xinhui Matsushiba Industrial	SH-D or SH	35 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50145374
Compressor capacitor2、3	Anhui Feida Industry Stock Co., Ltd.	CBB65A-1	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	VDE112776
(Alternative)	Anhui Juan Kuang Electric Co., Ltd	CBB65	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50101980
(Alternative)	Anhui Tong Feng Electronics Co., Ltd.	CBB65	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	VDE121116
(Alternative)	Anhui Xinyang Electronics Co., Ltd.	CBB65	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50209492
(Alternative)	Guangdong Shuntai Capacitors & Electrical Equipment Co. Ltd	CBB65A	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50045679
(Alternative)	Ningbo Shine Electric Co., Ltd	CBB65A-1 or CBB65A	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50014642
(Alternative)	Panasonic Electronic Devices(Jiangmen ) Co., Ltd.	SH-D	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50145374
(Alternative)	Shanghai Haoye Capacitors Co., Ltd	CBB65A	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50035566
(Alternative)	Shanghai Haoye Capacitors Co., Ltd	MKPC306 or MKPC256	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50037175
(Alternative)	Wuhu City Jinxin Electronics Co., Ltd.	CBB65	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	VDE128580
(Alternative)	Wuxi Hongguang Capacitor Co., Ltd.	CBB65	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50165370
(Alternative)	Xinhui Matsushiba Industrial	SH-D or SH	55 $\mu$ F; 450VAC; 50/60 Hz; 70°C; P2; C	EN/IEC 60252-1	TÜV Rh R 50145374
Outdoor fan motor	Guangdong Welling Motor Manufacturing Co., Ltd.	YKT-63-6-200L	208-230 V; 60 Hz; 63 W; Class B	EN/IEC 60335-2-40	Test with appliance
Outdoor fan motor	Guangdong Welling Motor Manufacturing Co., Ltd.	YDK60-6B(YKT-60-6-41)	208-230 V; 60 Hz; 60 W; Class B	EN/IEC 60335-2-40	Test with appliance
Outdoor fan motor protector	Jiansu Changsheng Electric Appliance Co., Ltd	BR-A	250VAC; 6A; Tf:135°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40015893



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Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Changzhou City Tong Li Electron & Electric Appliance Factory	KW-A2	AC250V 6A; Tf:135°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40020906
(Alternative)	Sensata Technologies China Co., Ltd	8CM	AC277V 8A Tf:135°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	KEMA 2014531
(Alternative)	Sensata Technologies China Co., Ltd	17AM	277VAC; 8A; Tf:135°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	KEMA 2014531
(Alternative)	Sensata Technologies China Co., Ltd	6AM	AC250V 6A; Tf:135°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	ENEC 2151681.01
(Alternative)	Jiansu Changsheng Electric Appliance Co., Ltd	18AM-B	AC277V 8A; Tf:135°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40022813
(Alternative)	Changhong tongli	KW-C2-series	250VAC; 6A; Tf:135°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40004418
(Alternative)	Shengzhou Galina Wangshi Thermal Protector Factory	JW-series	250VAC; 5A; Tf:135°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40006013
(Alternative)	Shengzhou Galina Wangshi Thermal Protector Factory	BW	250VAC; 6A; Tf:135°C, cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 40013915
(Alternative)	Wujin Control Electrical Appliances Plant	BW series	AC250V; 8A; Tf: 135°C; cycles : 3000	IEC 60730-1 IEC 60730-2-2	VDE 107747
(Alternative)	Changzhou Newzone Desheng Electric Appliance Co., Ltd	BR series	AC250V; 8A; Tf: 135°C; cycles : 3000	IEC 60730-1 IEC 60730-2-2	VDE 132813
(Alternative)	Changzhou Newzone Desheng Electric Appliance Co., Ltd	BR-A	250VAC; 6A; 135°C; operate cycles: 3000	IEC 60730-1 IEC 60730-2-2	VDE 132813
Outdoor fan motor capacitor	Panasonic Electronic Devices (Jiangmen) Co., Ltd.	451 series	450VAC; 50/60Hz; P2; B; 3 µF; T70°C	EN/IEC 60252-1	TUV Rh 50145353
(Alternative)	Sheng Ye Electrical Co Ltd	C61-P2	450VAC; 3 µF; P2; Class C; T85°C	EN/IEC 60252-1	TUV SUD 13 12 73204 010
(Alternative)	Shanghai Haoye Electric Co., Ltd.	MKP-1 series	450VAC; 50/60Hz; Class B; 3 µF; T85°C; S3	EN/IEC 60252-1	VDE 40023685
(Alternative)	Shanghai Haoye Electric Co., Ltd.	MKP-2 series	450VAC; 50/60Hz; Class B; 3 µF; T85°C; P2	EN/IEC 60252-1	TUV 50272575
(Alternative)	Shunde Kesheng Electronic Co., Ltd	CBB61S	450VAC; 50/60Hz; Class B; 3 µF; P2	EN/IEC 60252-1	TUV Rh R50276081

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(Alternative)	Guangdong Shuntai Capacitors & Electrical Equipment Co., Ltd (St)	CBB61A	450VAC; 50/60Hz; Class B; 3 $\mu$ F; T70°C; P2	EN/IEC 60252-1	TUV Rh R50268803
(Alternative)	Guangdong Fengming Electronic Tech. Co., Ltd	CBB61-P2	450VAC; 50/60Hz; 3 $\mu$ F; P2; B; T70°C /85°C	EN/IEC 60252-1	TUV Rh R50274996
(Alternative)	Xiamen Faratronic Co., Ltd	CBB61-S3	450VAC; 50/60Hz; S3; 3 $\mu$ F; B; T70°C/85°C	EN/IEC 60252-1	TUV Rh R50266163
Outdoor fan motor capacitor	Panasonic Electronic Devices (Jianggmen) Co., Ltd.	451 series	450VAC; 50/60Hz; P2; B; 4 $\mu$ F; T70°C	EN/IEC 60252-1	TUV Rh 50145353
(Alternative)	Sheng Ye Electrical Co Ltd	C61-P2	450VAC; 4 $\mu$ F; P2; Class C; T85°C	EN/IEC 60252-1	TUV SUD 13 12 73204 010
(Alternative)	Shanghai Haoye Electric Co., Ltd.	MKP-1 series	450VAC; 50/60Hz; Class B; 4 $\mu$ F; T85°C; S3	EN/IEC 60252-1	VDE 40023685
(Alternative)	Shanghai Haoye Electric Co., Ltd.	MKP-2 series	450VAC; 50/60Hz; Class B; 4 $\mu$ F; T85°C; P2	EN/IEC 60252-1	TUV 50272575
(Alternative)	Shunde Kesheng Electronic Co., Ltd	CBB61S	450VAC; 50/60Hz; Class B; 4 $\mu$ F; P2	EN/IEC 60252-1	TUV Rh R50276081
(Alternative)	Guangdong Shuntai Capacitors & Electrical Equipment Co., Ltd (St)	CBB61A	450VAC; 50/60Hz; Class B; 4 $\mu$ F; T70°C; P2	EN/IEC 60252-1	TUV Rh R50268803
(Alternative)	Guangdong Fengming Electronic Tech. Co., Ltd	CBB61-P2	450VAC; 50/60Hz; 4 $\mu$ F; P2; B; T70°C /85°C	EN/IEC 60252-1	TUV Rh R50274996
(Alternative)	Xiamen Faratronic Co., Ltd	CBB61-S3	450VAC; 50/60Hz; S3; 4 $\mu$ F; B; T70°C/85°C	EN/IEC 60252-1	TUV Rh R50266163
4-way valve	Zhejiang Dunan Hetian Metal Co., Ltd	DSF-9-R410A	AC220-240V; 50/60Hz; 7/5W; Class B	EN/IEC 60730-1	VDE 40013212
(Alternative)	Zhejiang Sanhua Climate & Appliance Controls Group Co., Ltd (Zhejiang Sanhua Group Co., Ltd.)	SHF-7H-34U or SHF-7H-34U-P	AC220-240V; 50/60Hz; 4,5/3,5W; Class B	EN/IEC 60730-1	VDE 40003240
(Alternative)	Anhui Tianda Electronic Science & Technology Co., Ltd	DSF-9-R410A	AC220-240V; 50/60Hz; 5-8W; Class B	EN/IEC 60730-1	TUV PS B030744665 003
(Alternative)	Foshan Hualu Automatic Controls Ltd	STF-0201G	AC220-240V; 50/60Hz; 6/5W; Class B	EN/IEC 60730-1	VDE 40018984

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(Alternative)	Zhejiang Chunhui Intelligent Control Co., Ltd.	DHF-9	AC220-240V; 50/60Hz; 4-7W; Class B	EN/IEC 60730-1	TUV Rh B080147761 012
(Alternative)	Henan Yuanquan Electron Co., Ltd.	DSF-09	AC220-240V; 50/60Hz; 5,5W/3,5W; Class B	EN/IEC 60730-1	VDE 15053320
(Alternative)	Zhejiang Dunan Hetian Metal Co., Ltd.	DSF-11-R410A	220-240VAC; 50/60Hz; 7/5W; IP54; Class B	EN/IEC 60730-1	TUV PS B080147761 012
(Alternative)	Sanhua Group Co., Ltd	SHF-11H-45D1	220-240VAC; 50/60Hz; 4,5/3,5W; IP54; Class B	EN/IEC 60730-1	VDE 40003240
(Alternative)	Zhejiang Dunan Hetian Metal Co., Ltd	DSF-20-R410A	220-240VAC; 50/60Hz; 7/5W; IP54; Class B	EN/IEC 60730-1	TUV PS B080147761 012
(Alternative)	Zhejiang Dunan Machinery Co., Ltd	DSF-20	AC220-240V; 50/60Hz; Class B	EN/IEC 60730-1	VDE 40013212
Internal wire	Yueqing Guoxin Electric Wire Factory	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E247528 Test with appliance
(Alternative)	Changzhou Hongchang Electronics Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E212395 Test with appliance
(Alternative)	Huasheng Eletrical Industrial Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E230918 Test with appliance
(Alternative)	Guangdong Province Guangzhou Panyu Cable Works Co Ltd Panyu Cable Factory	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E216775 Test with appliance
(Alternative)	Guangdong Xinya Electronics Technology Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E170689 Test with appliance
(Alternative)	Zhongshan City Shenbao Electric Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E199818 Test with appliance
(Alternative)	Lichang Connector Industry Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E228858 Test with appliance
(Alternative)	Huizhou Ltk Electronic Cable Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E148000 Test with appliance
(Alternative)	Heshan City Tehsing Huanchiu Electric Cable Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E229340 Test with appliance
(Alternative)	Guangdong Linoya Electronic Technology Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E315619 Test with appliance
(Alternative)	Guangzhou Kaiheng Enterprise Group	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E248582 Test with appliance

IEC 60335-2-40					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Shenzhen Qifurui Electronics Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E211048 Test with appliance
(Alternative)	Foshan Zhuo Sheng Green Wire Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E251755 Test with appliance
(Alternative)	Ls Cable(Wuxi) Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E52853 Test with appliance
(Alternative)	Guangzhou Zhongte Electrical Material Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E307902 Test with appliance
(Alternative)	Chau's Electrical Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E114082 Test with appliance
(Alternative)	Wuhu Shuncheng Electronics Co., Ltd	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E314693 Test with appliance
(Alternative)	Foshan Shunde Yonggaolian Wire & Cable Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E314925 Test with appliance
(Alternative)	Zhongshan Dongfeng Zhoushishenlong Electronic Wire Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E257280 Test with appliance
(Alternative)	Dongguan Jinlong Electronics Co., Ltd.	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E333717 Test with appliance
(Alternative)	Jiangmen Huayuan Enterprise Co Ltd	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E341507 Test with appliance
(Alternative)	Foshan Shunde Zhanliang Industrialist	UL1015	AWG12-22#; 600VAC; 105°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E330864 Test with appliance
(Alternative)	Yueqing Guoxin Electric Wire Factory	UL1007	AWG16-32#; 300VAC; 80°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E247528 Test with appliance
(Alternative)	Changzhou Hongchang Electronics Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E212395 Test with appliance
(Alternative)	Huasheng Eletrical Industrial Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E230918 Test with appliance
(Alternative)	Guangdong Province Guangzhou Panyu Cable Works Co Ltd Panyu Cable Factory	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E216775 Test with appliance
(Alternative)	Guangdong Xinya Electronics Technology Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E170689 Test with appliance

IEC 60335-2-40					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Zhongshan City Shenbao Electric Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E199818 Test with appliance
(Alternative)	Foshan Shunde Baosheng Electronics Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E257286 Test with appliance
(Alternative)	Lichang Connector Industry Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E228858 Test with appliance
(Alternative)	Huizhou Ltk Electronic Cable Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E148000 Test with appliance
(Alternative)	Heshan City Tehsing Huanchiu Electric Cable Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	ULE229340 Test with appliance
(Alternative)	Guangdong Linoya Electronic Technology Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E315619 Test with appliance
(Alternative)	Guangzhou Kaiheng Enterprise Group	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E248582 Test with appliance
(Alternative)	Shenzhen Qifurui Electronics Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E211048 Test with appliance
(Alternative)	Foshan Zhuo Sheng Green Wire Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E251755 Test with appliance
(Alternative)	Ls Cable(Wuxi) Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E52853 Test with appliance
(Alternative)	Guangzhou Zhongte Electrical Material Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E307902 Test with appliance
(Alternative)	Chau's Electrical Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E114082 Test with appliance
(Alternative)	Wuhu Shuncheng Electronics Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E314693 Test with appliance
(Alternative)	Foshan Shunde Yonggaolian Wire & Cable Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E314925 Test with appliance

IEC 60335-2-40					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Zhongshan Dongfeng Zhoushi shenlong Electronic Wire Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E257280 Test with appliance
(Alternative)	Dongguan Jinlong Electronics Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E333717 Test with appliance
(Alternative)	Jiangmen Huayuan Enterprise Co., Ltd.	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E341507 Test with appliance
(Alternative)	Foshan Shunde Zhanliang Industrialist	UL1007	AWG16-32#; 300VAC; 80°C	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E330864 Test with appliance
PVC tube	Dae Chang Eleccom Co., Ltd	DC-6	600VAC;105°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Foshan Shunde Kaidaxin Plastic Industry Co., Ltd.	KDS01	600VAC;105°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Guangzhou Kaiheng Enterprise Group	S-2	600V; 105°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Guangzhou Pu Sheng Electronics Insulating Material Co., Ltd.	GX-600	600VAC;105°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Heng Hui Chang Insulation Material Co., Ltd.	HHC-01(GX-600V)	600VAC;105°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Lianda Co., Ltd	LHX-01	600VAC;105°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Nissei Eco Co., Ltd.	NH-3(NIS-S-SE1)	600VAC;105°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Shenzhen Woer Heat-Shrinkable Material Co., Ltd.	RSFR-H or SBRS	600VAC;125°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Suzhou Fuchen Electric Material Co., Ltd.	FC-600	105°C;600VAC;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Wenzhou Hongxin Plastic Co., Ltd.	HXT-600(GX-600)	105°C; 600V; vw-1;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Zhangjiagang City Yilida Electronics Co., Ltd.	CSGV-600	600VAC,105°C,	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Zhejiang Zhongtian Electrical Jacket Co., Ltd.	ZT600	105°C; 600V; vw-1 ;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)

IEC 60335-2-40					
Clause	Requirement + Test		Result - Remark		Verdict
(Alternative)	Changzhou Shi Yu Wang Plastic Co., Ltd.	WS3-14	600VAC;105°C;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Kunshan Shengda Plastic Products Co Ltd	SDT-105	105°C;600VAC;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative) only for fan motor	Lianda Co., Ltd.	HB	750VAC; 105°C; VW-1	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative) only for fan motor	Lianda Co., Ltd.	SH	750VAC; 105°C; VW-1	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative) only for fan motor	Kai Da Xin	Φ6,Φ8, Φ10, Φ12	750VAC; 105°C; VW-1	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Yi Li Da	Φ6,Φ8,Φ14,Φ10,Φ12	105°C 600V	EN/IEC 60335-1 EN/IEC 60335-2-40	UL (Test with appliance)
(Alternative)	Wuhu Donghe Electron Co., Ltd.	PVC-DHB	105°C; 600VAC;	EN/IEC 60335-1 EN/IEC 60335-2-40	UL E352940 (Test with appliance)
PCB	Ht Circuits Co., Ltd.	1294V0	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E56334
(Alternative)	Shunde Junda Electronic Co., Ltd.	JD-D or JD-D1 or JD-E	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E173873
(Alternative)	Xing Da Printed Circuit Board Mfr	XD-102	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E193079
(Alternative)	Tat Chun Printed Circuit Board Co., Ltd.	TC-2B	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E131175
(Alternative)	Haiya Pcb Co., Ltd	C2	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E198946
(Alternative)	Jiangmen Glory Faith PCB Co., Ltd.	GF201	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E230374
(Alternative)	Zhuhai Jointek Electric Co., Ltd.	JK-004	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E214852
(Alternative)	Wuzhou Circuit Group Co., Ltd.	WZ-6	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E170968
(Alternative)	Foshan Shunde Haiya Pcb Co., Ltd.	1294V0	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E198946
(Alternative)	Baoyujia Electronic Co., Ltd.	BYJ-3	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E230225
(Alternative)	Guangdong Shengyi Sci.Tech	S3110/S1141 /S3116	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E109769

IEC 60335-2-40					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Doosan Corporation Electro-Material Bg.	DS-7106	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E103670
(Alternative)	Nan Ya Plastics Corporation	SN-L4	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E213990
(Alternative)	Kingboard Laminates Ltd.	KB6150, KB6160, KB5150	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E123995
(Alternative)	Huizhou Xingzhiguang Technology Co., Ltd	XZG-P1	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E246887
(Alternative)	Guangzhou Pan Yu Cali-Tech Electronics Company Limited	CT-101/CT-101A	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E216635
(Alternative)	Changzhou Haihong Electronics Co., Ltd	HDCEM1	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E166702
(Alternative)	Changzhou Aohong Electronics Co., Ltd	ILM-R1/GEM-R1##	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E303981
(Alternative)	Hubei Hypersonic Electronics Co., Ltd	CYS-01	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E306317
(Alternative)	Changzhou Henglin Radio Factory Co., Ltd.	HD-4/HD-5	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E174651
(Alternative)	Chang Chun Plastics Co., Ltd.	CCP-508/CCP-3400	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E108591
(Alternative)	International Laminate Material Ltd	ILM-R1	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E134893
(Alternative)	Huizhou Xingzhiguang Technology Co., Ltd.	XZG-P1	94V-0; thickness: 1,6mm;	IEC/EN 60335-1 IEC/EN 60335-2-40	Tested with appliance UL E246887
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance, See OD-CB2039.					

<b>28.1</b>	<b>TABLE: Threaded part torque test</b>			<b>P</b>
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)	
Screws for earthing	3,9	II	1.2	
Screws for terminal	3,9	II	1,2	

<b>29.1</b>	<b>TABLE: Clearances</b>			<b>P</b>
	Overvoltage category .....	II		-



IEC 60335-2-40						
Clause	Requirement + Test			Result - Remark		Verdict
Rated impulse voltage (V)	Min. cl (mm)	Type of insulation:				Verdict / Remark
		Basic	Functional	Supplementary	Reinforced	
330	0,5 <sup>1)</sup>					N/A
500	0,5 <sup>1)</sup>					N/A
800	0,5 <sup>1)</sup>					N/A
1500	0,5 <sup>1), 2)</sup>					N/A
2500	<b>1,5 <sup>2)</sup></b>	X	X		X	P
4000	<b>3,0 <sup>2)</sup></b>			X		P
6000	5,5 <sup>2)</sup>					N/A
8000	8,0 <sup>2)</sup>					N/A
10000	11,0 <sup>2)</sup>					N/A
<sup>1)</sup> Value is increased to 0,8 mm for pollution degree 3						
<sup>2)</sup> If the construction is affected by wear, by distortion, by movement of the parts or during assembly, the value is increased by 0,5 mm						
supplementary information:						

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Clause	Requirement + Test	Result - Remark	Verdict

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			Verdict
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	B <sup>*)</sup>	S <sup>*)</sup>	R <sup>*)</sup>	
≤50	0,2	0,6	0,9	1,2	1,5	1,7	1,9		—	—	N/A
≤50	0,2	0,6	0,9	1,2	1,5	1,7	1,9	—		—	N/A
≤50	0,4	1,2	1,8	2,4	3,0	3,4	3,8	—	—		N/A
>50 and ≤125	0,3	0,8	1,1	1,5	1,9	2,1	2,4		—	—	N/A
>50 and ≤125	0,3	0,8	1,1	1,5	1,9	2,1	2,4	—		—	N/A
>50 and ≤125	0,6	1,6	2,2	3,0	3,8	4,2	4,8	—	—		N/A
>125 and ≤250	0,6	1,3	1,8	2,5	3,2	3,6	<b>4,0</b>	X	—	—	P
>125 and ≤250	0,6	1,3	1,8	<b>2,5</b>	3,2	3,6	4,0	X		—	P
>125 and ≤250	0,6	1,3	1,8	2,5	3,2	3,6	<b>4,0</b>	—	X	—	P
>125 and ≤250	1,2	2,6	3,6	5,0	6,4	7,2	<b>8,0</b>	—	—	X	P
>250 and ≤400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	N/A
>250 and ≤400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	N/A
>250 and ≤400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		N/A
>400 and ≤500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	N/A
>400 and ≤500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	N/A
>400 and ≤500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		N/A
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	N/A
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	N/A
>500 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

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Clause	Requirement + Test							Result - Remark		Verdict
>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

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			Verdict
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	B <sup>*)</sup>	S <sup>*)</sup>	R <sup>*)</sup>	
>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
>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

\*) , B=Basic, S=Supplementary and R=Reinforced

supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict

29.2 TABLE: Creepage distances, functional insulation								P
Working voltage (V)		Creepage distance (mm) Pollution degree						Verdict / Remark
	1	2			3			
		Material group			Material group			
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	
≤50	0,2	0,6	0,8	1,1	1,4	1,6	1,8	N/A
>50 and ≤125	0,3	0,7	1,0	1,4	1,8	2,0	2,2	N/A
>125 and ≤250	0,4	1,0	1,4	<b>2,0</b>	2,5	2,8	3,2	P
>125 and ≤250	0,4	1,0	1,4	2,0	2,5	2,8	<b>3,2</b>	P
>250 and ≤400	0,8	1,6	2,2	3,2	4,0	4,5	5,0	N
>400 and ≤500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A
>500 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:								

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Clause	Requirement + Test	Result - Remark	Verdict
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30	TABLE: RESISTANCE TO HEAT, FIRE AND TRACKING (appended table)												
Component	Manufacturer	Type	Ball pressure test				Glow wire test					Needle-flame test	Verdict
			75°C	cl. 11 +40°C	125°C	cl. 19 +25°C	GWT 550°C	GWT 650°C	GWT 750°C	GWFI 850°C	GWIT		
Plastic enclosure/ Control panel/fan motor support	See table 24.1	See table 24.1	0,8	—	—	—	P	—	—	—	—	—	P
Terminal block	See table 24.1	See table 24.1	—	—	0,8	—	—	—	P	P	—	P	P
Relay	See table 24.1	See table 24.1	—	—	—	—	—	—	P	P	—	—	P
X2 capacitor	See table 24.1	See table 24.1	—	—	1,1	—	—	—	P	P	—	—	P
Transformer bobbin	See table 24.1	See table 24.1	—	—	0,6	—	—	—	P	P	—	—	P
Main switch	See table 24.1	See table 24.1	—	—	0,8	—	—	—	P	P	—	—	P
Fan motor capacitor	See table 24.1	See table 24.1	—	—	1,3	—	—	—	P	P	—	—	P
Thermal protector for compressor	See table 24.1	See table 24.1	—	—	1,2	—	—	—	P	P	—	—	P
Plastic strips	—	—	—	—	—	—	—	—	—	—	—	P	P
Remark: 1. no ignition or flame distinguished in 1 s. 2. all the alternative components were tested and the most unfavourable results were recorded.													

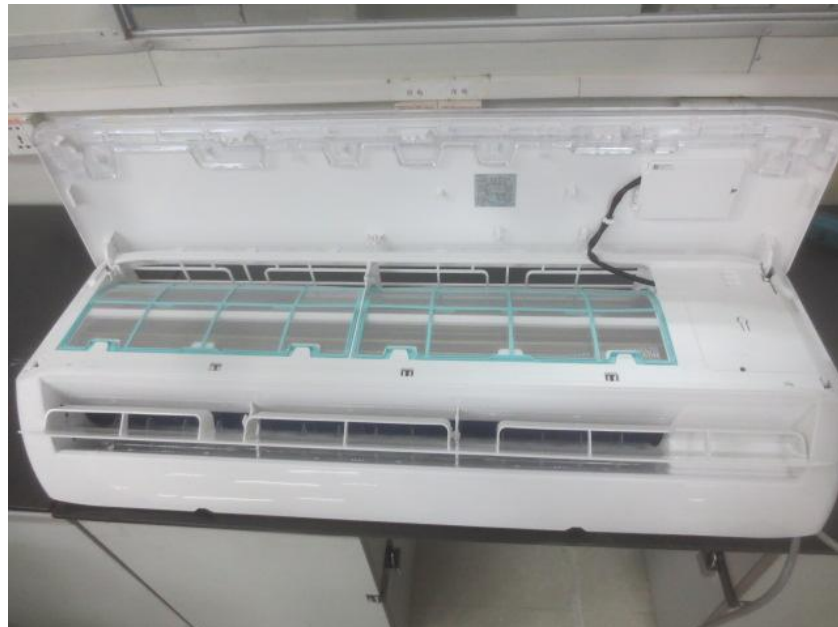
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model 1: MSTABE-18CRN1-NC5

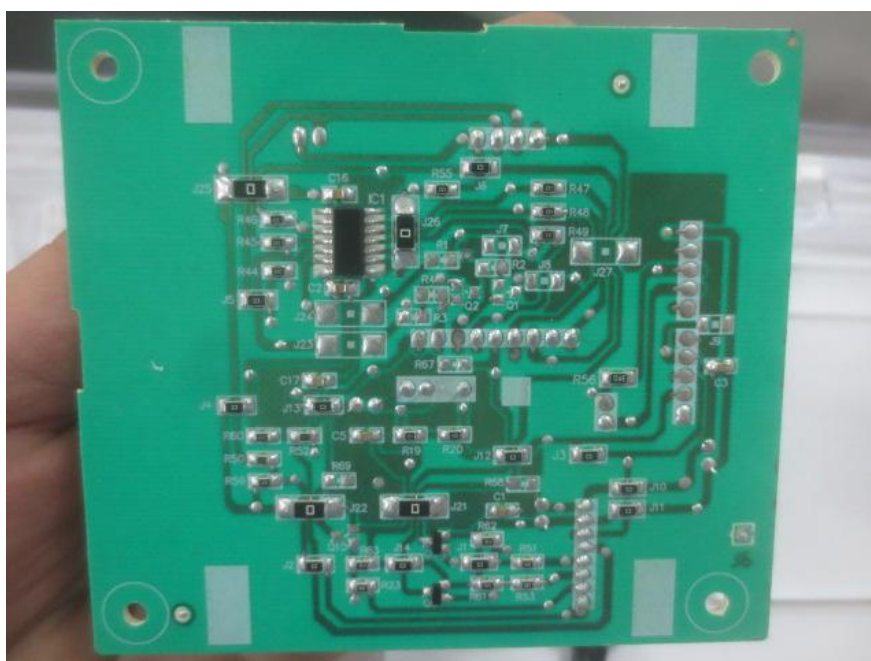
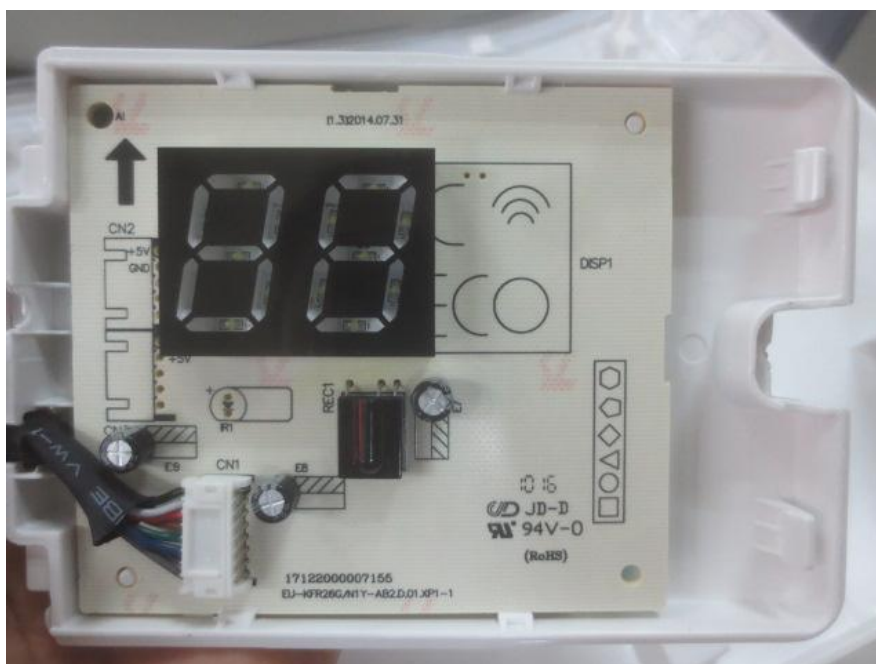
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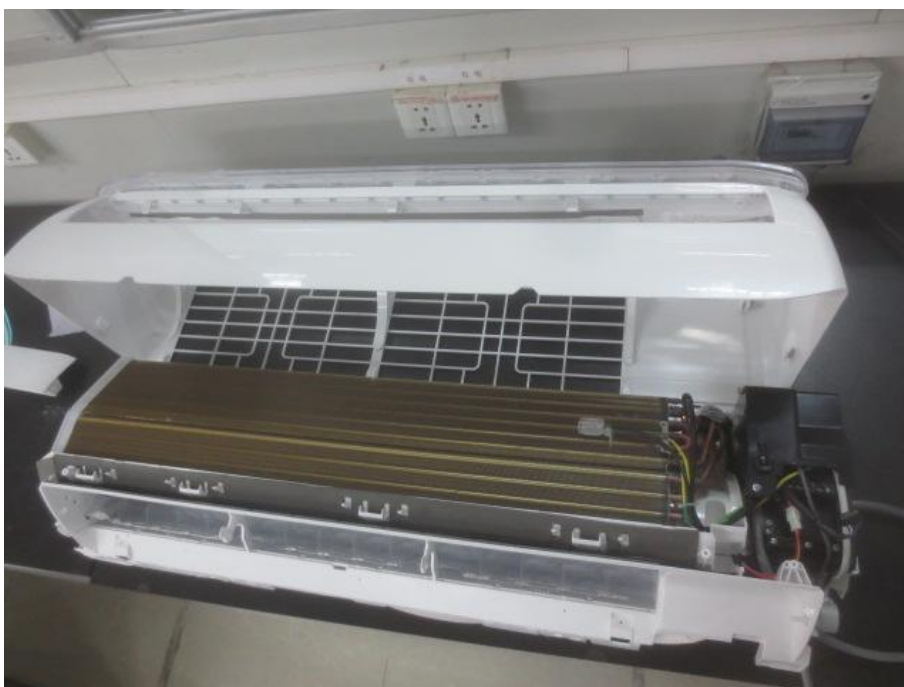
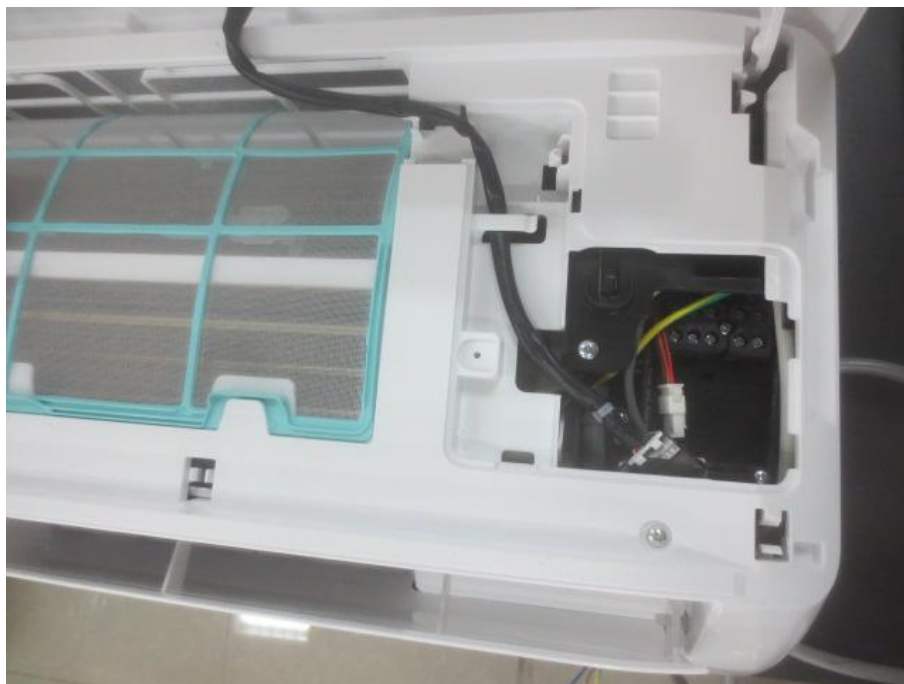
IEC 60335-2-40



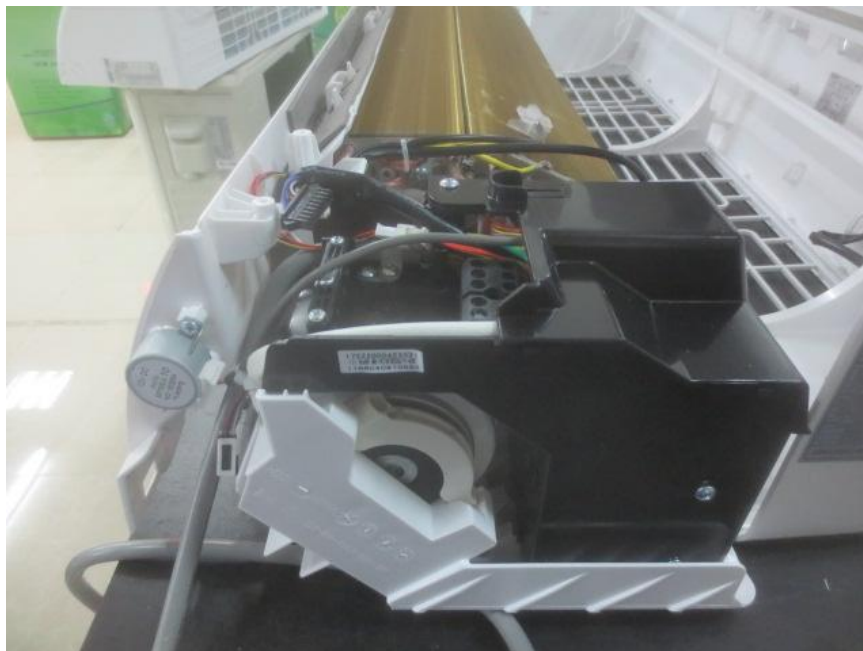
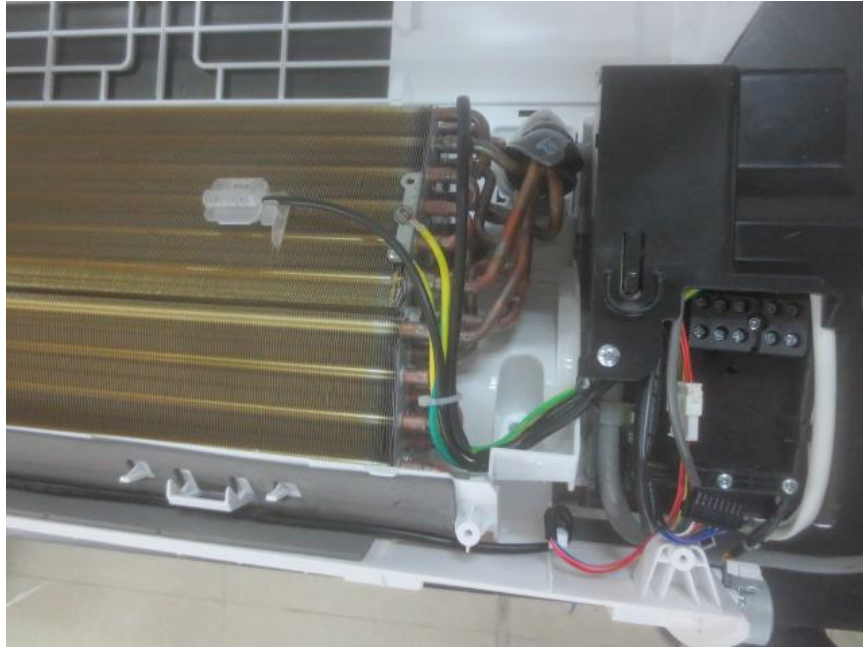
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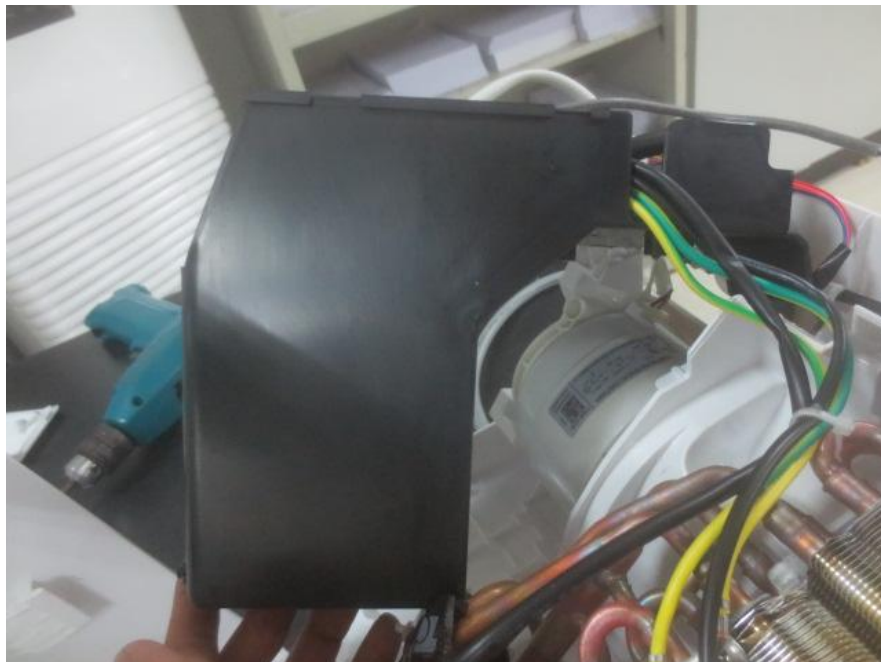
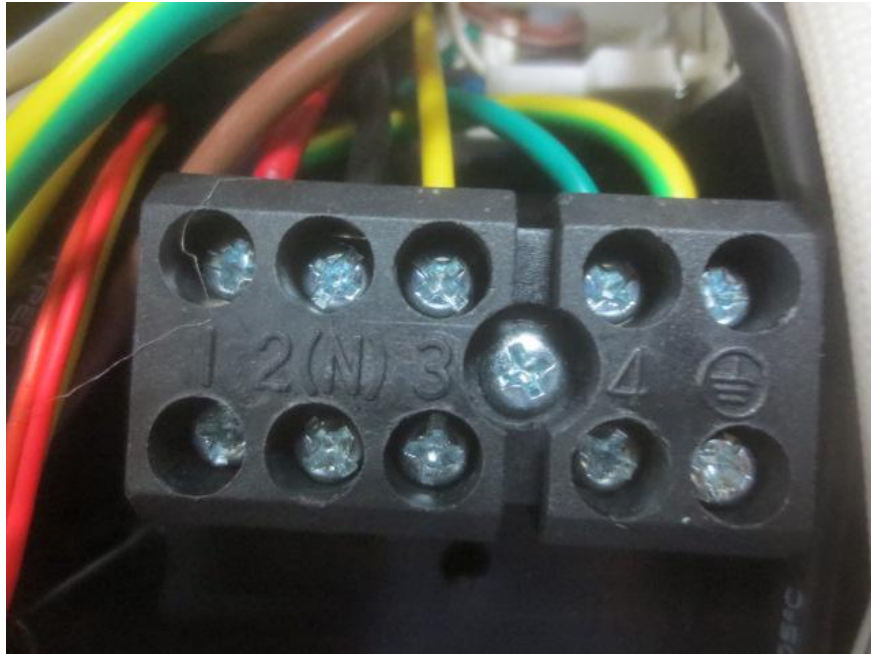


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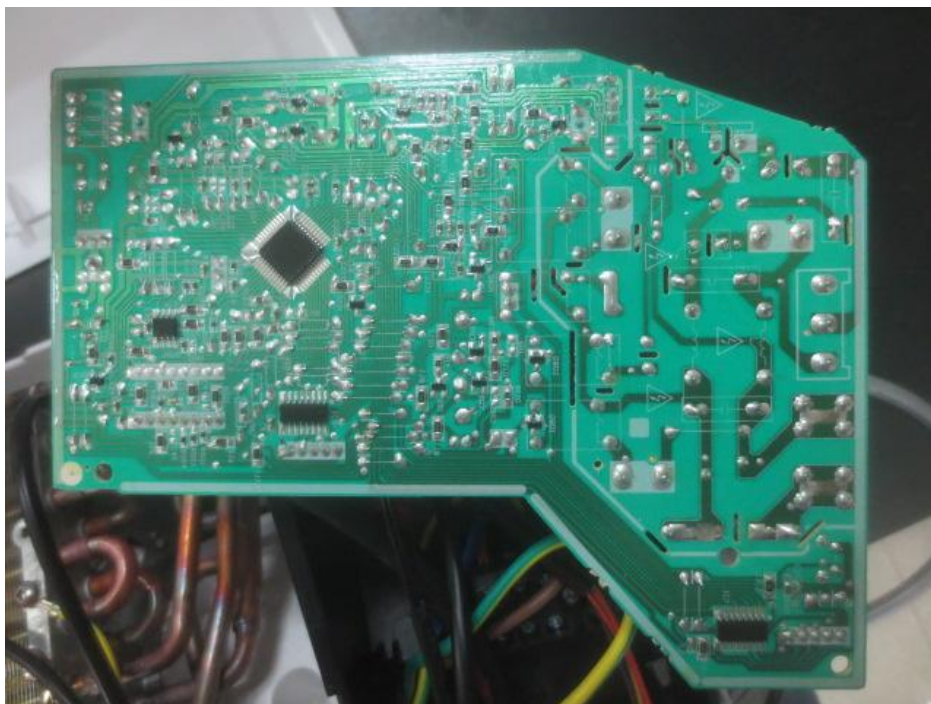
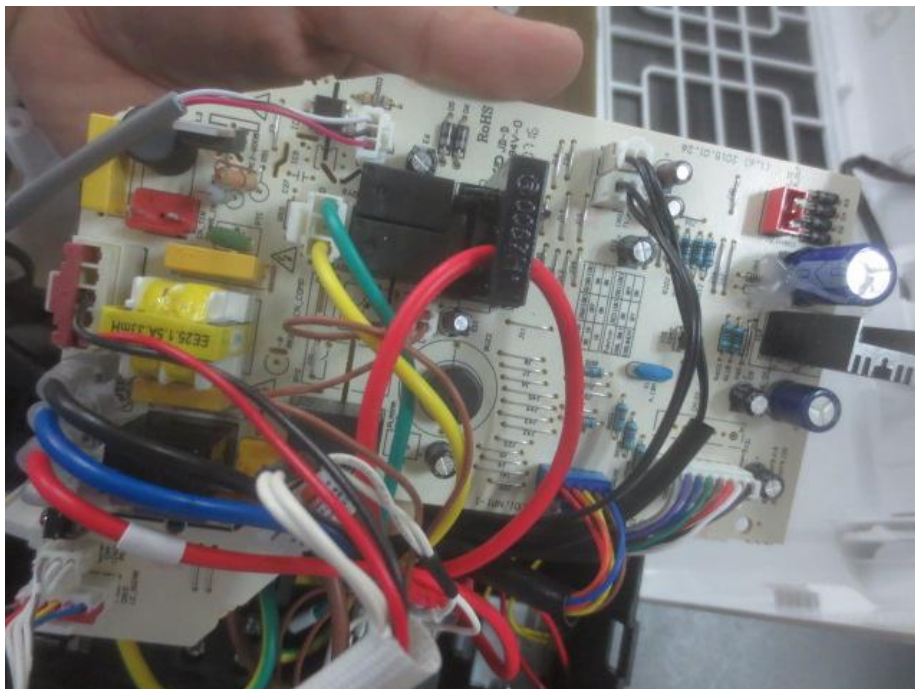


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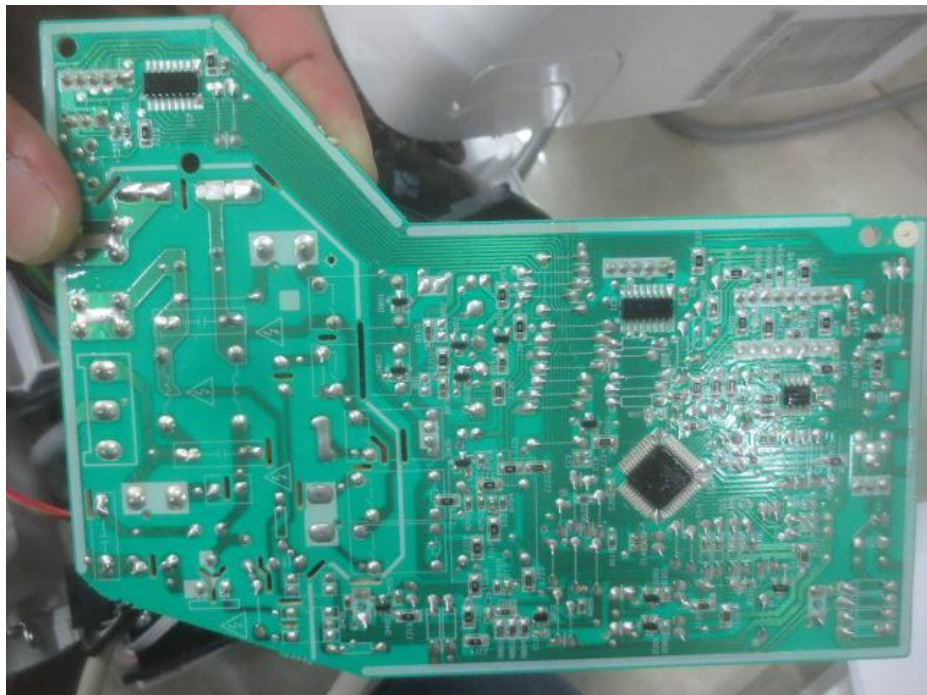
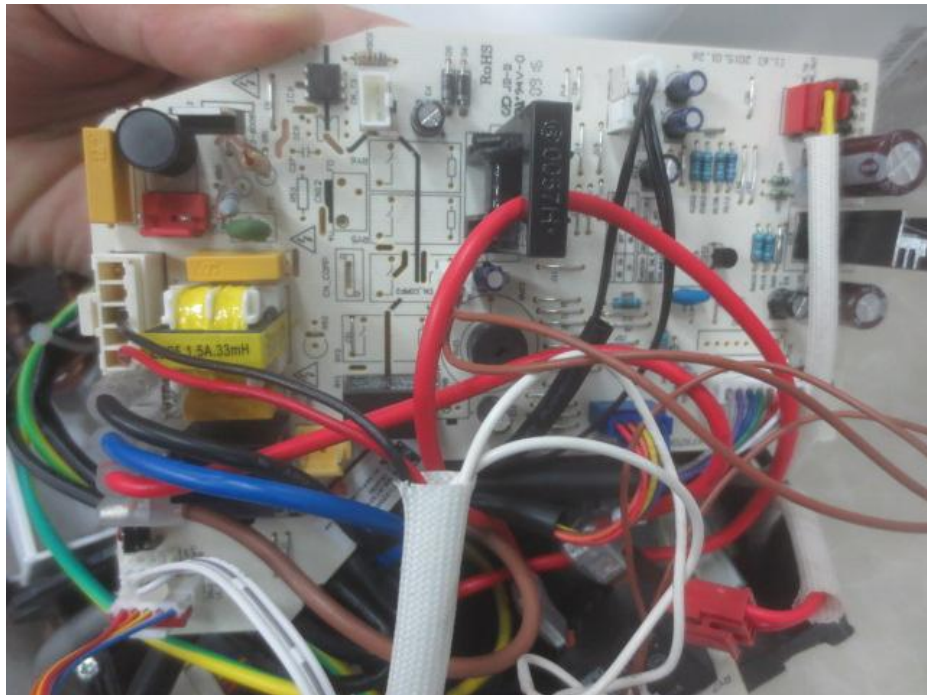




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## IEC 60335-2-40



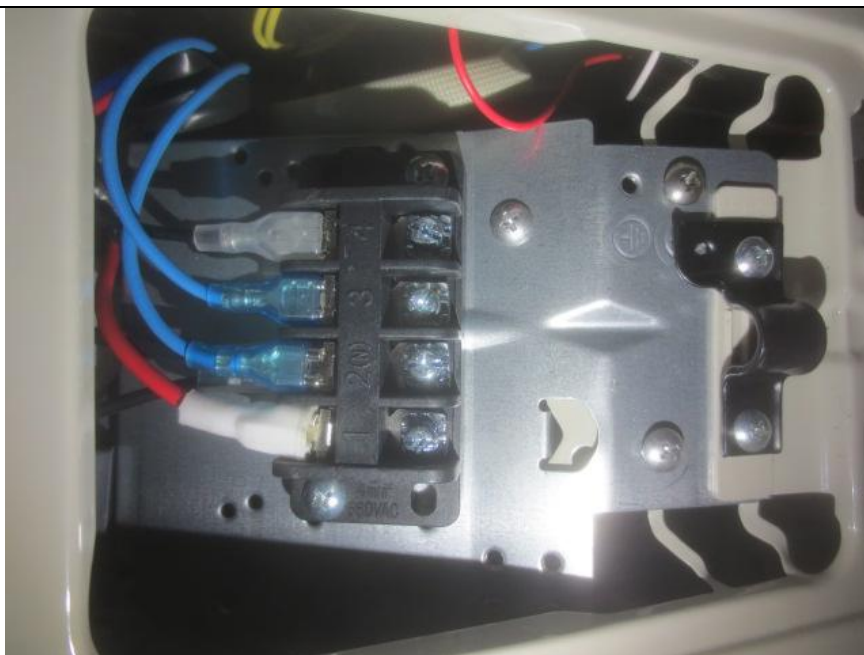


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**IEC 60335-2-40**



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## IEC 60335-2-40

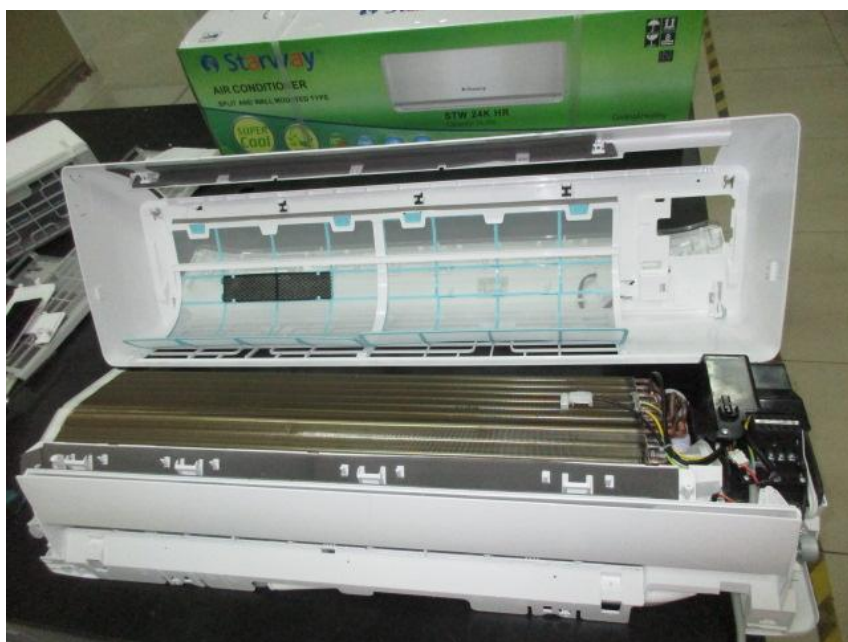


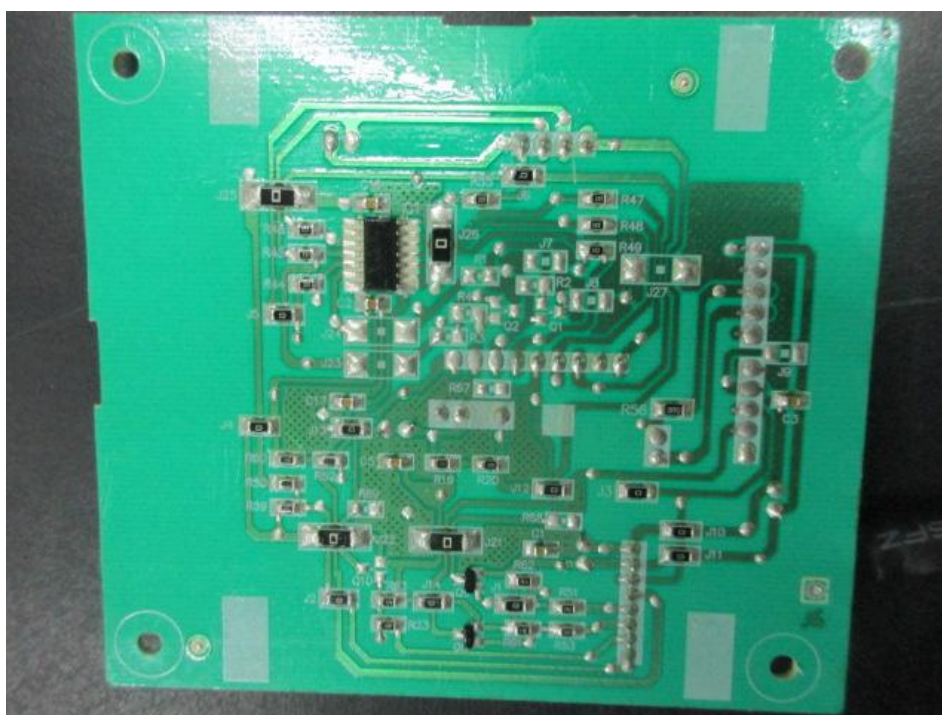
model 3: MSTABE-22CRN1-NC5

model 4: MSTABE-22HRN1-NC5



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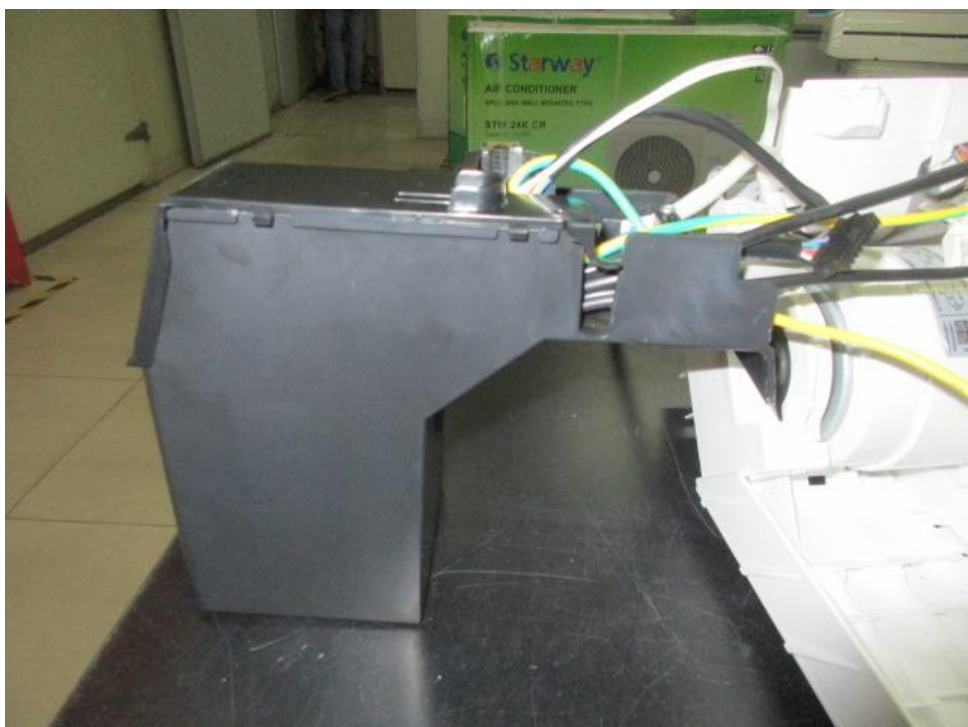
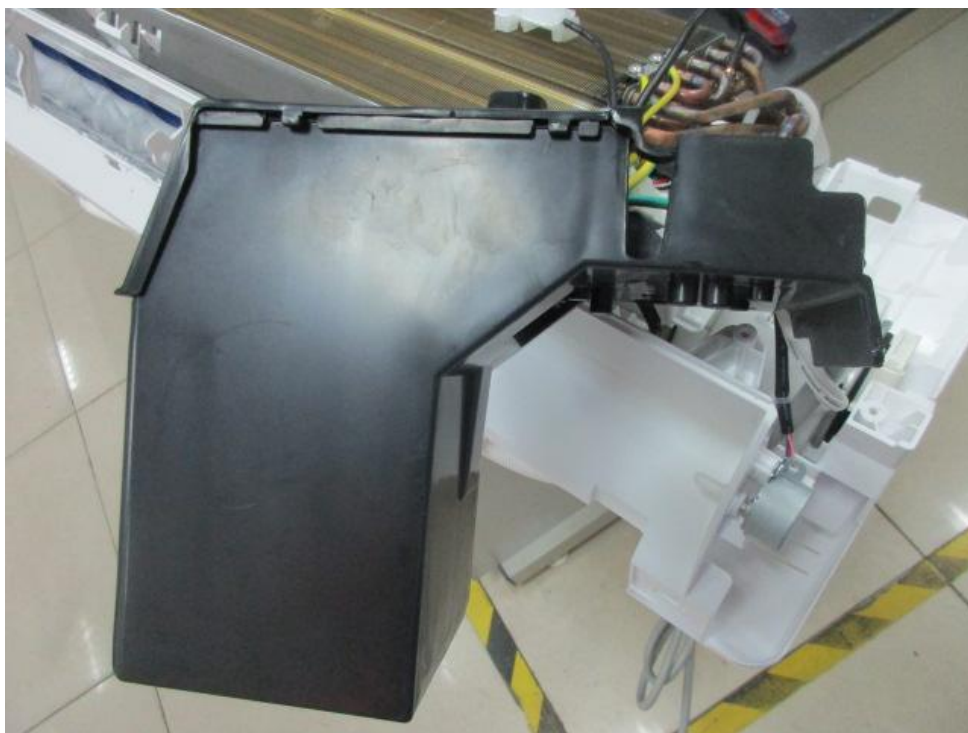
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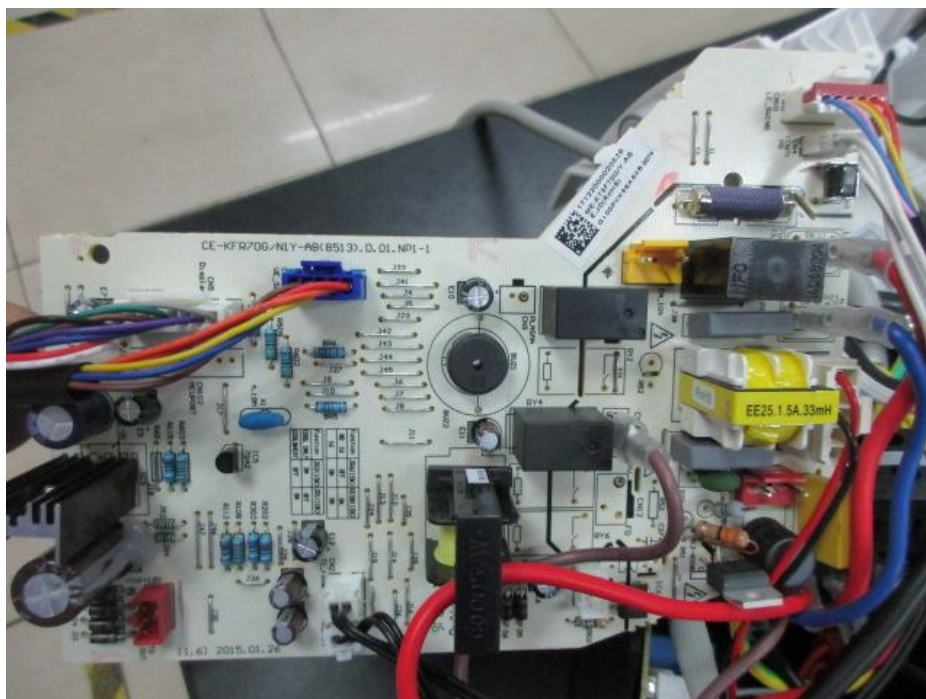


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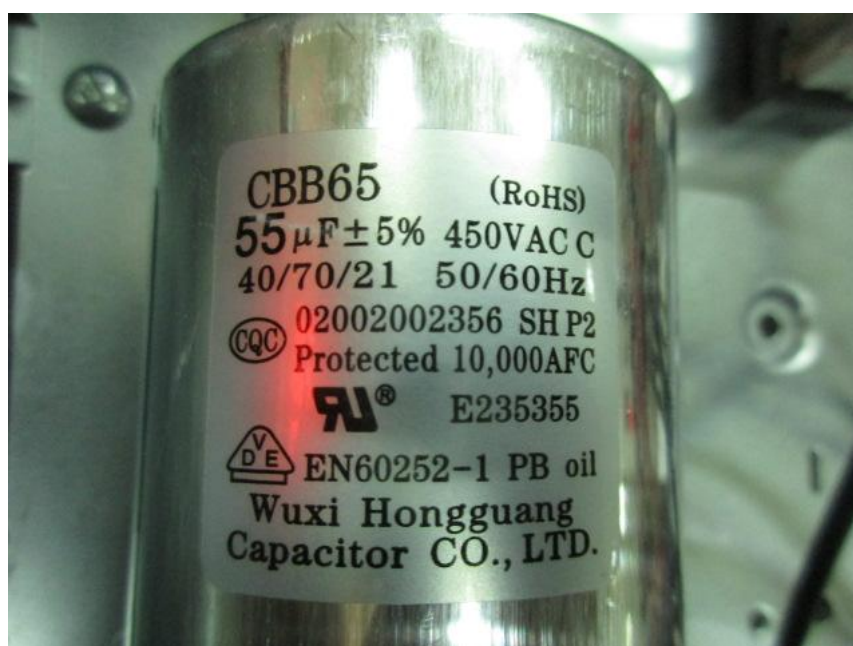




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