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TEST REPORT
IEC 60335-2-40
Safety of household and similar electrical appliances
Part 2-40: Particular requirements for electrical heat pumps, air conditioners and dehumidifiers

Report Number. .....:	181115014GZU-001
Date of issue .....:	December 19, 2018
Total number of pages.....:	202
Name of Testing Laboratory preparing the Report.....:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
Applicant's name.....:	Rheem Manufacturing MEA FZE
Address .....:	Office No.407, Building No 2E, DAFZA, Dubai, United Arab Emirates 371045
Test specification:	
Standard.....:	IEC 60335-2-40:2013, AMD1:2016 in conjunction with IEC 60335-1:2010, AMD1:2013, AMD2:2016
Test procedure .....:	CB scheme
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC60335_2_40M
Test Report Form(s) Originator ....:	VDE Testing and Certification Institute
Master TRF.....:	Dated 2017-10-06

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
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Test item description .....:	Split type air conditioner
Trade Mark .....:	**RUUD, Rheem**
Manufacturer.....:	Same as applicant
Model/Type reference .....:	**RUUD:** VDMA-CTT012T03, VDMA-CTT018T03, VDMA-CTT024T03A, VDMA-CTT028T03A, **Rheem:** RDMA-CTT012T03, RDMA-CTT018T03, RDMA-CTT024T03A, RDMA-CTT028T03A
Ratings .....:	220-240V, 50Hz, Class I, R410A, VDMA-CTT012T03, RDMA-CTT012T03: 1400W, 8A, IP24 for outdoor unit VDMA-CTT018T03, RDMA-CTT018T03: 2200W, 11,1A, IP24 for outdoor unit VDMA-CTT024T03A, RDMA-CTT024T03A: 2650W, 13A, IPX4 for outdoor unit VDMA-CTT028T03A, RDMA-CTT028T03A: 3250W, 15,8A, IPX4 for outdoor unit

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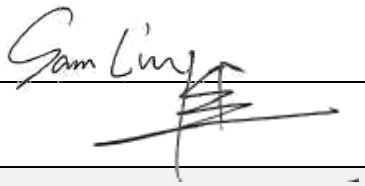
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch	
Testing location/ address ..... :		Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China	
Tested by (name, function, signature)..... :		Sam Liu, Engineer	
Approved by (name, function, signature) .. :		Kuboo Li, Reviewer	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address ..... :			
Tested by (name, function, signature)..... :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address ..... :			
Tested by (name + signature)..... :			
Witnessed by (name, function, signature) . :			
Approved by (name, function, signature) .. :			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address ..... :			
Tested by (name, function, signature)..... :			
Witnessed by (name, function, signature) . :			
Approved by (name, function, signature) .. :			
Supervised by (name, function, signature) :			

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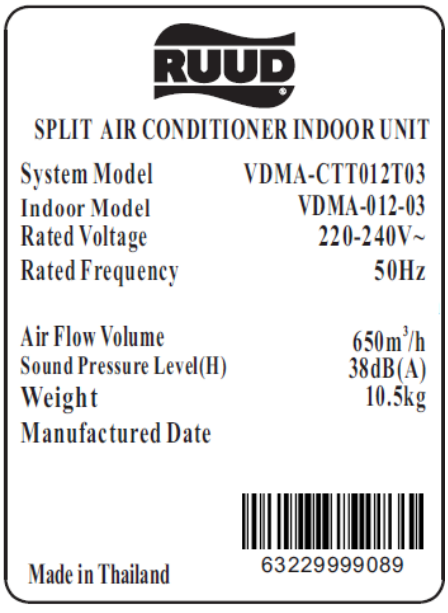
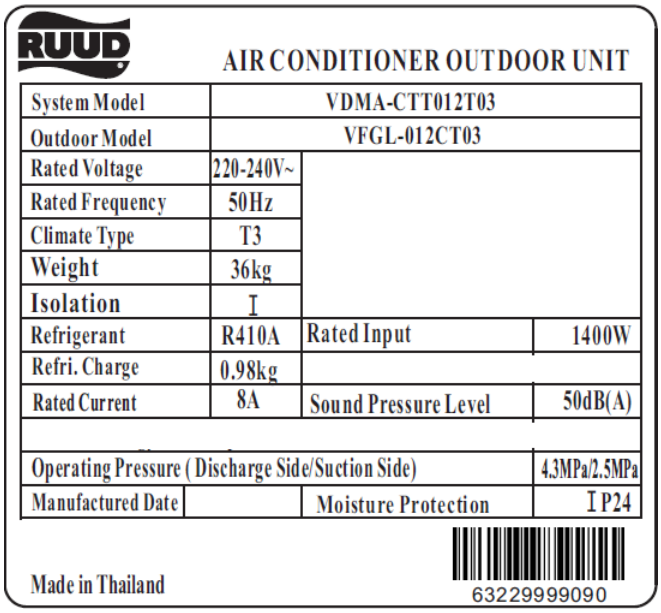
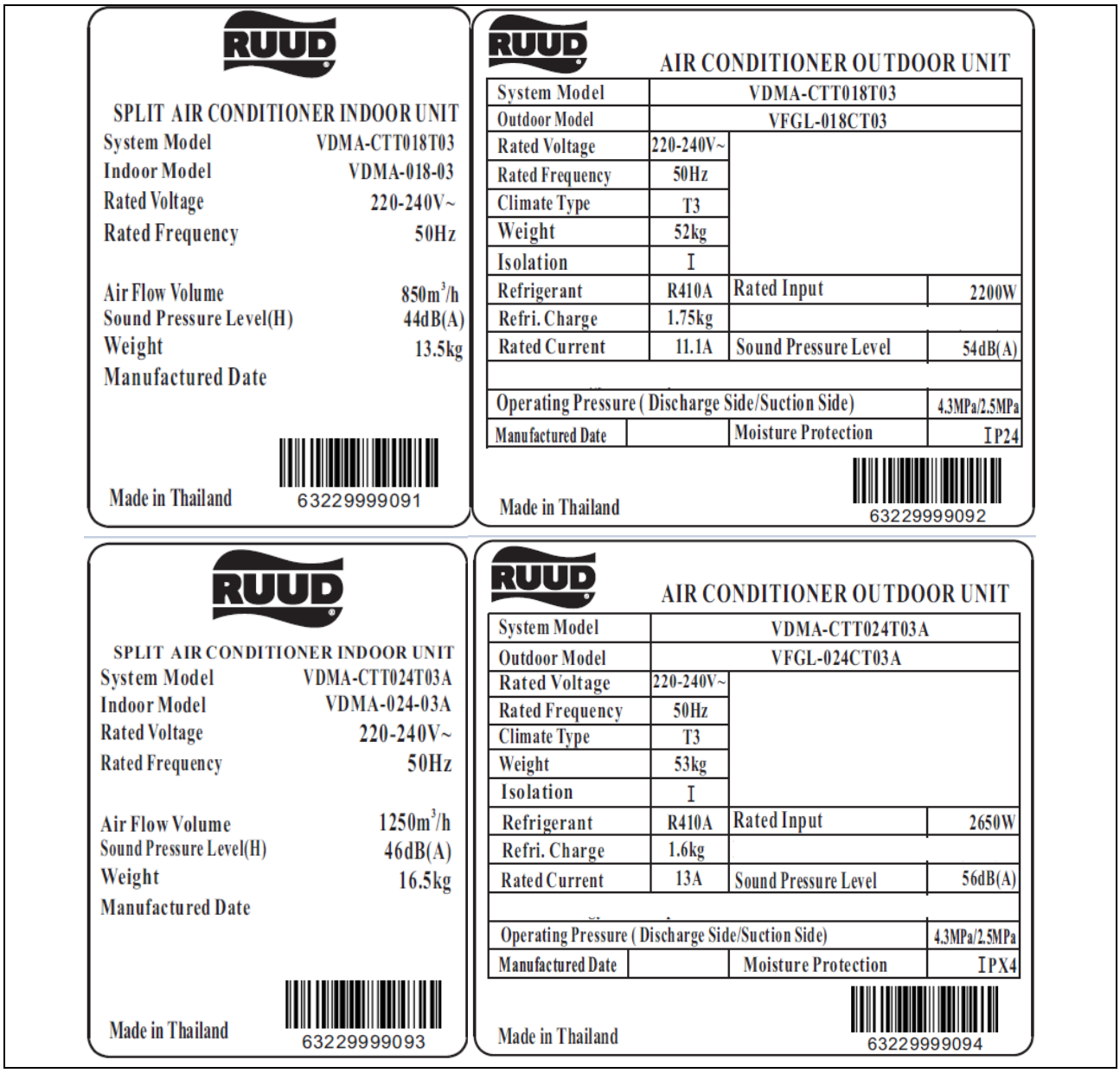
List of Attachments (including a total number of pages in each attachment): None	
Summary of testing: The products tested comply with the requirements of the following standards: IEC 60335-2-40:2013+A1:2016; IEC 60335-1:2010+A1:2013+A2:2016.	
Tests performed (name of test and test clause): Full test were separately conducted on models VDMA-CTT012T03, VDMA-CTT018T03, VDMA-CTT024T03A and VDMA-CTT028T03A	**Testing location:** Intertek Testing Services Shenzhen Ltd. Guangzhou Branch Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
Summary of compliance with National Differences (List of countries addressed): Special national differences of United Arab Emirates, Kingdom of Bahrain, Sultanate of Oman, State of Qatar, State of Kuwait and Republic of Yemen have been considered.	

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.







RUUD

SPLIT AIR CONDITIONER INDOOR UNIT

System Model	VDMA-CTT018T03
Indoor Model	VDMA-018-03
Rated Voltage	220-240V~
Rated Frequency	50Hz
Air Flow Volume	850m³/h
Sound Pressure Level(H)	44dB(A)
Weight	13.5kg
Manufactured Date	

Made in Thailand 63229999091

RUUD

AIR CONDITIONER OUTDOOR UNIT

System Model	VDMA-CTT018T03		
Outdoor Model	VFGL-018CT03		
Rated Voltage	220-240V~		
Rated Frequency	50Hz		
Climate Type	T3		
Weight	52kg		
Isolation	I		
Refrigerant	R410A	Rated Input	2200W
Refri. Charge	1.75kg		
Rated Current	11.1A	Sound Pressure Level	54dB(A)
Operating Pressure (Discharge Side/Suction Side)			4.3MPa/2.5MPa
Manufactured Date		Moisture Protection	IP24

Made in Thailand 63229999092

RUUD

SPLIT AIR CONDITIONER INDOOR UNIT

System Model	VDMA-CTT024T03A
Indoor Model	VDMA-024-03A
Rated Voltage	220-240V~
Rated Frequency	50Hz
Air Flow Volume	1250m³/h
Sound Pressure Level(H)	46dB(A)
Weight	16.5kg
Manufactured Date	

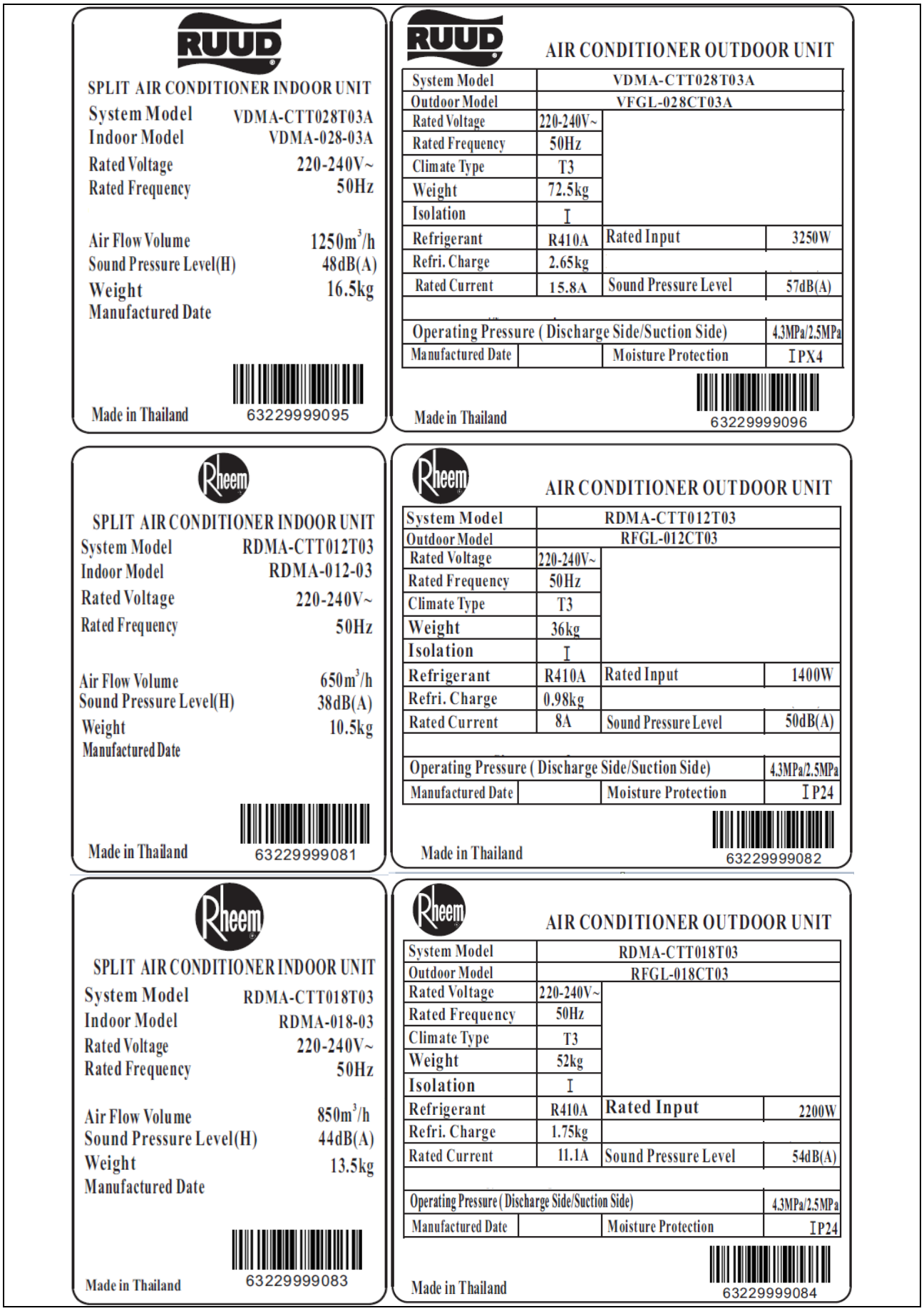
Made in Thailand 63229999093

RUUD

AIR CONDITIONER OUTDOOR UNIT

System Model	VDMA-CTT024T03A		
Outdoor Model	VFGL-024CT03A		
Rated Voltage	220-240V~		
Rated Frequency	50Hz		
Climate Type	T3		
Weight	53kg		
Isolation	I		
Refrigerant	R410A	Rated Input	2650W
Refri. Charge	1.6kg		
Rated Current	13A	Sound Pressure Level	56dB(A)
Operating Pressure (Discharge Side/Suction Side)			4.3MPa/2.5MPa
Manufactured Date		Moisture Protection	IPX4

Made in Thailand 63229999094



RUUD

SPLIT AIR CONDITIONER INDOOR UNIT

System Model	VDMA-CTT028T03A
Indoor Model	VDMA-028-03A
Rated Voltage	220-240V~
Rated Frequency	50Hz
Air Flow Volume	1250m³/h
Sound Pressure Level(H)	48dB(A)
Weight	16.5kg
Manufactured Date	

Made in Thailand 63229999095

RUUD

AIR CONDITIONER OUTDOOR UNIT

System Model	VDMA-CTT028T03A		
Outdoor Model	VFGL-028CT03A		
Rated Voltage	220-240V~		
Rated Frequency	50Hz		
Climate Type	T3		
Weight	72.5kg		
Isolation	I		
Refrigerant	R410A	Rated Input	3250W
Refri. Charge	2.65kg		
Rated Current	15.8A	Sound Pressure Level	57dB(A)
Operating Pressure (Discharge Side/Suction Side)			4.3MPa/2.5MPa
Manufactured Date		Moisture Protection	IPX4

Made in Thailand 63229999096

Rheem

SPLIT AIR CONDITIONER INDOOR UNIT

System Model	RDMA-CTT012T03
Indoor Model	RDMA-012-03
Rated Voltage	220-240V~
Rated Frequency	50Hz
Air Flow Volume	650m³/h
Sound Pressure Level(H)	38dB(A)
Weight	10.5kg
Manufactured Date	

Made in Thailand 63229999081

Rheem

AIR CONDITIONER OUTDOOR UNIT

System Model	RDMA-CTT012T03		
Outdoor Model	RFGL-012CT03		
Rated Voltage	220-240V~		
Rated Frequency	50Hz		
Climate Type	T3		
Weight	36kg		
Isolation	I		
Refrigerant	R410A	Rated Input	1400W
Refri. Charge	0.98kg		
Rated Current	8A	Sound Pressure Level	50dB(A)
Operating Pressure (Discharge Side/Suction Side)			4.3MPa/2.5MPa
Manufactured Date		Moisture Protection	IP24

Made in Thailand 63229999082

Rheem

SPLIT AIR CONDITIONER INDOOR UNIT

System Model	RDMA-CTT018T03
Indoor Model	RDMA-018-03
Rated Voltage	220-240V~
Rated Frequency	50Hz
Air Flow Volume	850m³/h
Sound Pressure Level(H)	44dB(A)
Weight	13.5kg
Manufactured Date	

Made in Thailand 63229999083

Rheem

AIR CONDITIONER OUTDOOR UNIT

System Model	RDMA-CTT018T03		
Outdoor Model	RFGL-018CT03		
Rated Voltage	220-240V~		
Rated Frequency	50Hz		
Climate Type	T3		
Weight	52kg		
Isolation	I		
Refrigerant	R410A	Rated Input	2200W
Refri. Charge	1.75kg		
Rated Current	11.1A	Sound Pressure Level	54dB(A)
Operating Pressure (Discharge Side/Suction Side)			4.3MPa/2.5MPa
Manufactured Date		Moisture Protection	IP24

Made in Thailand 63229999084

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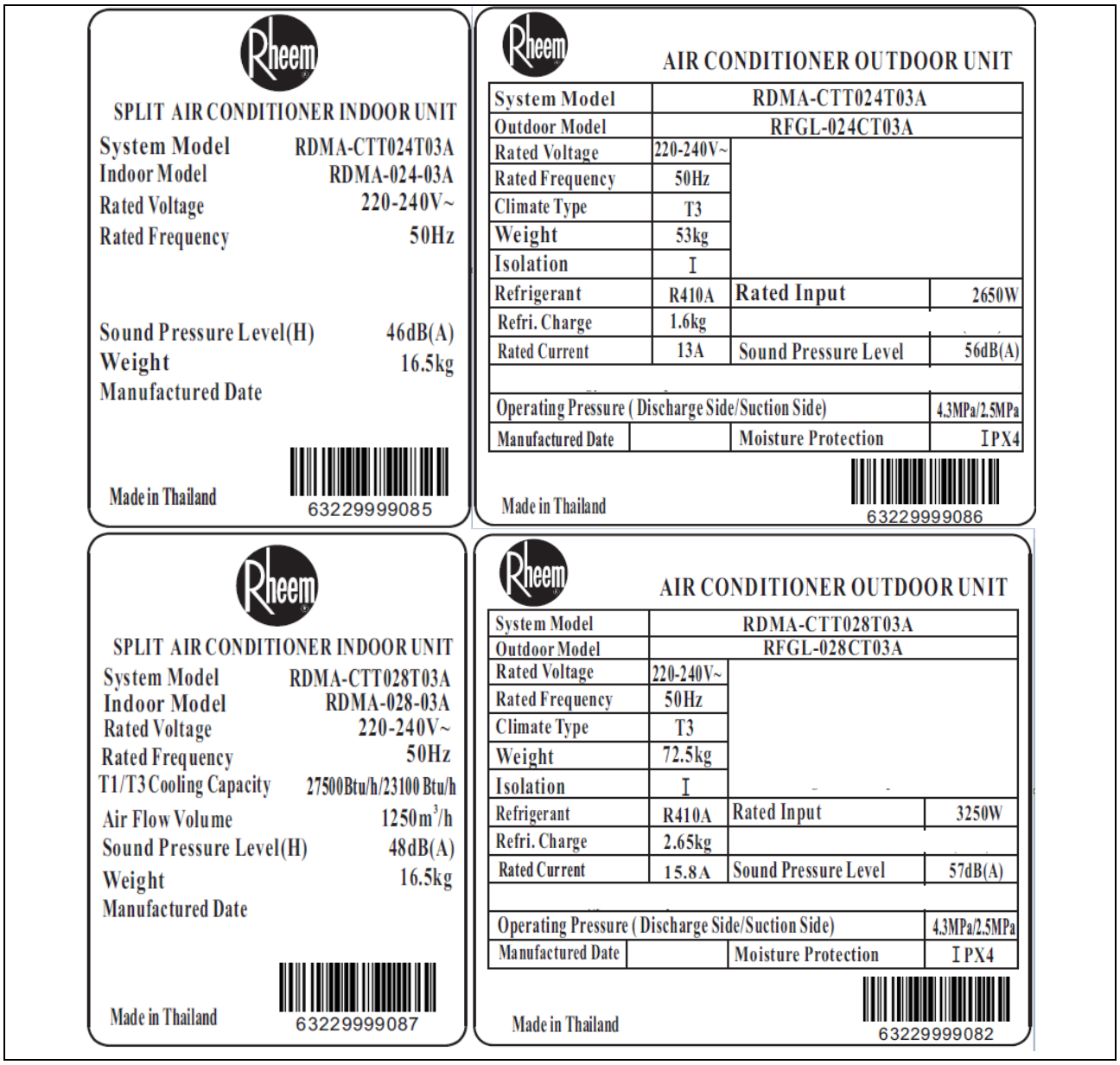

SPLIT AIR CONDITIONER INDOOR UNIT

System Model	RDMA-CTT024T03A
Indoor Model	RDMA-024-03A
Rated Voltage	220-240V~
Rated Frequency	50Hz
Sound Pressure Level(H)	46dB(A)
Weight	16.5kg
Manufactured Date	

Made in Thailand 63229999085

AIR CONDITIONER OUTDOOR UNIT

System Model	RDMA-CTT024T03A		
Outdoor Model	RFGL-024CT03A		
Rated Voltage	220-240V~		
Rated Frequency	50Hz		
Climate Type	T3		
Weight	53kg		
Isolation	I		
Refrigerant	R410A	Rated Input	2650W
Refri. Charge	1.6kg		
Rated Current	13A	Sound Pressure Level	56dB(A)
Operating Pressure (Discharge Side/Suction Side)			4.3MPa/2.5MPa
Manufactured Date		Moisture Protection	IPX4

Made in Thailand 63229999086

SPLIT AIR CONDITIONER INDOOR UNIT

System Model	RDMA-CTT028T03A
Indoor Model	RDMA-028-03A
Rated Voltage	220-240V~
Rated Frequency	50Hz
T1/T3 Cooling Capacity	27500Btu/h/23100 Btu/h
Air Flow Volume	1250m^3/h
Sound Pressure Level(H)	48dB(A)
Weight	16.5kg
Manufactured Date	

Made in Thailand 63229999087

AIR CONDITIONER OUTDOOR UNIT

System Model	RDMA-CTT028T03A		
Outdoor Model	RFGL-028CT03A		
Rated Voltage	220-240V~		
Rated Frequency	50Hz		
Climate Type	T3		
Weight	72.5kg		
Isolation	I		
Refrigerant	R410A	Rated Input	3250W
Refri. Charge	2.65kg		
Rated Current	15.8A	Sound Pressure Level	57dB(A)
Operating Pressure (Discharge Side/Suction Side)			4.3MPa/2.5MPa
Manufactured Date		Moisture Protection	IPX4

Made in Thailand 63229999082

Test item particulars ..... :	
Classification of installation and use ..... :	Fixed appliance
Supply Connection ..... :	Permanently connected to fixed wiring
..... :	
Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A
- test object does meet the requirement .....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing .....:	
Date of receipt of test item .....:	November 15, 2018
Date (s) of performance of tests .....:	November 15, 2018 – December 11, 2018

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General remarks:

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

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.
When determining the test result, measurement uncertainty has been considered.

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The test report only allows to be revised only within the report defined retention period unless standard or regulation was withdrawn or invalid.

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

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

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

Name and address of factory (ies) .....: P.P.J. Engineering Co., Ltd.
52/50 Moo 4, Sukraprachasan Rd., Bangpood,
Pakkred, Nonthaburi 11120, Thailand

General product information:

The appliance is split type air-conditioner with cooling operate mode only intended for household use.

The product consists of 2 parts, indoor and outdoor unit. Indoor unit is wall mounted at least 2,5m above the floor. Outdoor unit could be installed at the outdoor according to the installation manual.

The main power is supplied by a supply cord, and via interconnection cords connecting indoor and outdoor unit for power supply and signal.

All models have similar construction except for the following difference.
Model differences:

Model name	Indoor main board	Indoor fan motor	Outdoor main board	Outdoor fan motor	Compressor
VDMA-CTT012T03, RDMA-CTT012T03	M554F1BQJ, M554F1BTJ, M560F1KJ	FN20N-PG, FN20V-PG	—	FW25K-1, FW25K-2	QXAH-C122E030
VDMA-CTT018T03, RDMA-CTT018T03	M554F1BMJ, M554F1ALJ	FN35A-PG	—	LW60J	QXAH-F19F450
VDMA-CTT024T03A, RDMA-CTT024T03A	M554F1BMJ, M560F1SJ, M554F1QBMJ	FN35A-PG	—	LW60J	QXAH-F232F450, QXA-E232H050
VDMA-CTT028T03A, RDMA-CTT028T03A	M863F1DJ, M863F1CQJ, M863F1DQJ	FN60B-ZL	W5101TJ	LW92K-ZL	QXASH-F295N450

Note: models in the same row are all the same except for model name and trade name.

Model Lists:

Model	Indoor Unit	Outdoor Unit
VDMA-CTT012T03	VDMA-012-03	VFGL-012CT03
VDMA-CTT018T03	VDMA-018-03	VFGL-018CT03
VDMA-CTT024T03A	VDMA-024-03A	VFGL-024CT03A
VDMA-CTT028T03A	VDMA-028-03A	VFGL-028CT03A
RDMA-CTT012T03	RDMA-012-03	RFGL-012CT03
RDMA-CTT018T03	RDMA-018-03	RFGL-018CT03
RDMA-CTT024T03A	RDMA-024-03A	RFGL-024CT03A
RDMA-CTT028T03A	RDMA-028-03A	RFGL-028CT03A

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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 60335-2-40:2013)		P
	At least one additional specially prepared sample required for tests of annex FF (Leak simulation tests) (IEC 60335-2-40:2013)		N/A
	Temperatures on refrigerant piping measured during test of clause 11 (IEC 60335-2-40:2013)		N/A
5.6	Appropriate controls rendered inoperative during test (IEC 60335-2-40:2013)		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 60335-2-40:2013)		P
5.10	For split-package units, refrigerant lines installed in accordance with installation instructions (IEC 60335-2-40:2013)		P
	Length of pipe is between 5 m and 7,5 m. (IEC 60335-2-40:2013)		P
	Thermal insulation of refrigerant lines applied in accordance with installation instructions (IEC 60335-2-40:2013)		P
5.101	Motor-compressor subjected to relevant test of clause 19 of IEC 60335-2-34, unless (IEC 60335-2-40:2013)	For compressor except QXASH-F295N450	P
	motor-compressor comply with that standard (IEC 60335-2-40:2013)	For compressor QXASH-F295N450	P
5.102	Motor-compressors tested and comply with IEC 60335-2-34 need not additionally tested for clause 21 (IEC 60335-2-40:2013)	For compressor QXASH-F295N450	P
6	**CLASSIFICATION**		**—**
6.1	Protection against electric shock: Class I, II, III (IEC 60335-2-40:2013) .....:	Class I	P
6.2	Protection against harmful ingress of water, IP degree in accordance with IEC 60529 (IEC 60335-2-40:2013)		----
	- appliances or parts intended for outdoor use be at least IPX4 (IEC 60335-2-40:2013)	IP24 or IPX4 for outdoor unit	P
	- appliances intended only for indoor use (excluding laundry rooms) be IPX0 (IEC 60335-2-40:2013)	For indoor unit	P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- appliances intended to be used in laundry rooms be at least IPX1 (IEC 60335-2-40:2013)		N/A
6.101	Degree of accessibility (accessible/not accessible to the general public) (IEC 60335-2-40:2013)	Accessible to the general public	P
7	**MARKING AND INSTRUCTIONS**		**—**
7.1	Rated voltage or voltage range (V) ..... :	220-240	P
	Symbol for nature of supply, or ..... :	~	P
	Rated frequency (Hz) ..... :	50	P
	Rated power input (W), or ..... :	See marking plates	P
	Rated current (A) ..... :	See marking plates	P
	Manufacturer's or responsible vendor's name, trademark or identification mark ..... :	See marking plates	P
	Model or type reference ..... :	See marking plates	P
	Symbol IEC 60417-5172, for class II appliances		N/A
	IP number, other than IPX0 ..... :	IP24 or IPX4 for outdoor unit	P
	Symbol IEC 60417-5180, for class III appliances, unless		N/A
	the appliance is operated by batteries only, or		N/A
	for appliances powered by rechargeable batteries recharged in the appliance		N/A
	Symbol IEC 60417-5018, for class II and class III appliances incorporating a functional earth		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
	Refrigerant charge (IEC 60335-2-40:2013/am1:2016) ..... :	See marking plates	P
	Refrigerant as designated under ISO 817 or ANSI/ASHRAE 34 (IEC 60335-2-40:2013/am1:2016) ..... :	R410A	P
	Permissible excessive operating pressure for sanitary hot water heat pumps (IEC 60335-2-40:2013) ..... :		N/A
	Maximum operating pressure in the water and/or brine for the heat exchanger for hydronic fan coil units (IEC 60335-2-40:2013/am1:2016) ..... :		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 60335-2-40:2013) ..... :	See marking plates	P

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Symbol for degree of protection against ingress of water, other than IPX0 (IEC 60335-2-40:2013) ....:	IP24 or IPX4 for outdoor unit	P
	Separate marking of appliances with all rated characteristics of supplementary heaters (IEC 60335-2-40:2013) .....:		N/A
	Marking of direction of fluid flow (IEC 60335-2-40:2013)		N/A
	Flame symbol and instruction manual symbol of 7.6 visible when flammable refrigerant employed and following conditions exist (IEC 60335-2-40:2013):		----
	- accessing parts expected to be subjected to maintenance or repair (IEC 60335-2-40:2013)		N/A
	- observing appliance under sale or installed conditions (IEC 60335-2-40:2013)		N/A
	- observing appliance packaging, if appliance charged with refrigerant (IEC 60335-2-40:2013)		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 60335-2-40:2013)		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 60335-2-40:2013)		N/A
	When installed, the marking should be visible after removing a detachable part (IEC 60335-2-40:2013)		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’ m² (only applies to appliances that are not fixed appliances) (IEC 60335-2-40:2013)		N/A
	Not fixed appliances, minimum room size X specified on appliance. X in marking determined in m² according to Clause GG.2 for unventilated areas and the X in the marking shall not be required if the refrigerant charge (m_c) of the appliance is up to m_1 according to GG.1.1. (IEC 60335-2-40:2013/am1:2016)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Maximum allowable pressure for low-pressure side and high-pressure side marked on product (IEC 60335-2-40:2013)		P
	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 60335-2-40:2013)		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		P
	Different rated values marked with the values separated by an oblique stroke		N/A
7.4	Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible		N/A
	Requirement met if frequent changes are not required and the rated voltage or rated frequency to which the appliance is to be adjusted is determined from a wiring diagram		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 or current are related to the arithmetic mean value of the rated voltage range		P
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N/A
7.6	Correct symbols used		P
	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 60335-2-40:2013)		N/A
	Flammable refrigerant, symbol requiring reference to manual [ISO 7000-0790 (2004-01)], including colour and format, permanently placed on appliance (IEC 60335-2-40:2013)		N/A
	Symbol ISO 7010-W021 (IEC 60335-2-40:2013)		N/A
	Symbol ISO 7000-1641 (IEC 60335-2-40:2013)		N/A
	Symbol ISO 7000-1641 (IEC 60335-2-40:2013)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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
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 of functional earthing terminals (symbol IEC 60417-5018)		N/A
	- marking not placed on removable parts		P
7.9	Marking or placing of switches which may cause a hazard		P
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means.....:	By use of figures, letters or other visual means	P
	This applies also to switches which are part of a control		N/A
	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 60335-2-40:2013)		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 60335-2-40:2013)		N/A
	The instructions state that:		—

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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
	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
	For appliances for altitudes exceeding 2000 m, the maximum altitude is stated .....:		N/A
	The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only		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
	If different rated voltages or different rated frequencies are marked, the instructions state what action to be taken to adjust the appliance		N/A
	Sufficient details for installation or maintenance supplied (IEC 60335-2-40:2013):		----
	- that the appliance shall be installed in accordance with national wiring regulations (IEC 60335-2-40:2013)		P
	- the dimensions of the space necessary for correct installation of the appliance including the minimum permissible distance to adjacent structures (IEC 60335-2-40:2013)		P
	- for appliances with supplementary heaters, the minimum clearance from the appliance to combustible surfaces (IEC 60335-2-40:2013)		N/A
	- a wiring diagram with a clear indication of the connections and wiring to external control devices and supply cord (IEC 60335-2-40:2013)		P
	- the range of external static pressures at which the appliance was tested (add-on heat pumps and appliances with supplementary heaters only) (IEC 60335-2-40:2013)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- the method of connection to the appliance to the electrical supply and interconnection of separate components (IEC 60335-2-40:2013)		P
	- indication of which parts of the appliance are suitable for outdoor use, if applicable (IEC 60335-2-40:2013)		N/A
	- details of type and rating of fuses , or rating of circuit breakers; (IEC 60335-2-40:2013)		N/A
	- 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 60335-2-40:2013)		N/A
	- maximum and minimum water or brine operating temperatures (IEC 60335-2-40:2013)		N/A
	- maximum and minimum water or brine operating pressures (IEC 60335-2-40:2013)		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 60335-2-40:2013)		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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets		N/A
7.12.9	Instructions specified in 7.12 and from 7.12.1 to 7.12.8 appear together before any other instructions supplied with the appliance		P
	These instructions may be supplied with the appliance separately from any functional use booklet		P
	They may follow the description of the appliance that identifies parts, or follow the drawings/sketches		P
	In addition, instructions are also available in an alternative format such as on a website or on request from the user in a format such as a DVD		P
	In addition, instructions are also available in an alternative format such as on a website or in a format such as a DVD.....:		P
7.13	Instructions and other texts in an official language	English and Arabic	P
7.14	Markings clearly legible and durable:		—
	Signal words WARNING, CAUTION, DANGER in uppercase having a height as specified.....:		P
	Uppercase letter of the text explaining the signal word not smaller than 1,6 mm .....:		P
	Moulded in, engraved, or stamped markings either raised above or have a depth below the surface of at least 0,25 mm, unless		P
	contrasting colours are used		N/A
	Markings checked by inspection, measurement and rubbing test as specified		P
7.15	Markings on a main part		P

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	The symbol IEC 60417-5018 placed next to the symbol IEC 60417-5172 or IEC 60417-5180		N/A
	Marking on panel allowed, provided panel in place for intended operation of appliance (IEC 60335-2-40:2013)		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 60335-2-40:2013):		----
	- fuse rated current in amperes, type and rated voltage or (IEC 60335-2-40:2013)		N/A
	- manufacturer and model of overload protective device (IEC 60335-2-40:2013)		N/A
7.102	Marking for connection with aluminium wire, if necessary (IEC 60335-2-40:2013)		N/A
7.103	For appliances made up of more than one factory made assembly specified by the manufacturer to be used together, instructions shall be provided for completing the assembly to ensure compliance with the requirements. (IEC 60335-2-40:2013/am1:2016)		N/A
7.104	For partial units, the instructions or markings shall include the following additional information: (IEC 60335-2-40:2013/am1:2016)		----
	- For evaporating units and condensing units, the instructions or markings shall include wording to assure that the maximum operating pressure is considered when connecting to any condenser unit or evaporator unit. (IEC 60335-2-40:2013/am1:2016)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- For evaporating units, condensing units and condenser units, the instructions or markings shall include refrigerant charging instructions. (IEC 60335-2-40:2013/am1:2016)		N/A
	- A warning to assure that partial units shall only be connected to an appliance suitable for the same refrigerant. (IEC 60335-2-40:2013/am1:2016)		N/A
	- This unit <model xxx> is a partial unit air conditioner, complying with partial unit requirements of this International Standard, and must only be connected to other units that have been confirmed as complying to corresponding partial unit requirements of this International Standard. (IEC 60335-2-40:2013/am1:2016)		N/A
	- The electrical interfaces shall be specified with purpose, voltage, current, and safety class of construction. (IEC 60335-2-40:2013/am1:2016)		N/A
	- The SELV connection points, if provided, are to be clearly indicated in the instructions. The connection point should be marked with the “read the instructions” symbol per ISO 7000-0790 (2004-01) and the Class III symbol according to IEC 60417-5180 (2003- 02). (IEC 60335-2-40:2013/am1:2016)		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
	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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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 or supporting parts		N/A
	For a single switching action obtained by a switching device, requirements as specified		N/A
	For appliances with a supply cord and without a switching device, the single switching action may be obtained by the withdrawal of the plug		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 μF		N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μC		N/A
	- for peak values over 15 kV, 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 60335-2-40:2013)		N/A
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		P
	Only possible to touch parts separated from live parts by double or reinforced insulation		P
9	**STARTING OF MOTOR-OPERATED APPLIANCES**		**—**

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the power input is the arithmetic mean value		N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated power input is related to the arithmetic mean value		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 .....:	(see appended table)	P
	If the current varies throughout the operating cycle and the maximum value of the current exceeds, by a factor greater than two, the arithmetic mean value of the current occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the current is the arithmetic mean value		N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated current is related to the arithmetic mean value of the range		P
11	**HEATING**		**—**
11.1	No excessive temperatures in normal use (IEC 60335-2-40:2013)		P
	Compliance is checked by the tests of annex C, if (IEC 60335-2-40:2013):		----
	- temperature of motor winding exceeds values shown in table 3 (IEC 60335-2-40:2013)		N/A
	- there is doubt about classification of insulation system of the motor (IEC 60335-2-40:2013)		N/A
11.2	Placing and mounting of appliance (IEC 60335-2-40:2013):		----

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- clearances to adjacent surfaces (IEC 60335-2-40:2013)		P
	- flow rates for liquid source or sink equipment be minimum, except for hydronic fan coil units where flow rates and liquid temperatures be maximum (IEC 60335-2-40:2013)		N/A
	- static pressures (IEC 60335-2-40:2013)		N/A
	- means of adjusting the flow, flow for tests be minimum obtainable (IEC 60335-2-40:2013)		N/A
	- adjustable limit controls set at maximum cut-out setting and minimum differential (IEC 60335-2-40:2013)		P
	Appliances with supplementary heaters, use test casing of clause 11.9 (IEC 60335-2-40:2013)		N/A
11.2.1	Appliances with supplementary heaters, inlet duct connected to inlet air opening (IEC 60335-2-40:2013)		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 60335-2-40:2013)		N/A
11.2.2	Ducted appliance without supplementary heaters, air outlet used (IEC 60335-2-40:2013)		N/A
11.2.3	For the evaluation and testing of partial units, the following test setup and conditions are to be applied. (IEC 60335-2-40:2013/am1:2016)		N/A
	- evaporator units and condenser units are tested as individual units at the maximum ambient temperature stated in the instructions. If not stated in the instructions, these units shall be tested at an ambient temperature that is equal to the saturated temperature of the refrigerant at the marked maximum allowable operating pressure (± 0,1 MPa) minus 10 K (± 1 K). (IEC 60335-2-40:2013/,am1:2016)		N/A
	- condensing units are tested in the cooling mode only, at the maximum specified ambient temperature with 9 K (± 1 K) sub-cooling and the maximum specified evaporating pressure with 11 K (± 1 K) superheat. For condensing units provided with expansion device(s), the superheat/sub-cooling is to be as under the normal control of the expansion device(s). (IEC 60335-2-40:2013/am1:2016)		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- evaporating units, intended for cooling only, are tested in the cooling mode only with a condensing pressure that is equal to the marked maximum allowable operating pressure (± 0,1 MPa) with 9 K (± 1 K) sub-cooling. (IEC 60335-2-40:2013/am1:2016)		N/A
	- evaporating units that are intended for reverse cycle operation are tested in the heating mode only, at the maximum specified evaporating pressure. (IEC 60335-2-40:2013/,am1:2016)		N/A
11.3	Temperature rise determine by thermocouples or resistance method (IEC 60335-2-40:2013)		P
11.4	Test performed at supply voltage between 0,94 and 1,06 times the rated voltage (IEC 60335-2-40:2013)	1,06 x 240=254,4V	P
	Heating elements energized at voltage which gives an electrical input of 1,15 times maximum rated power input (IEC 60335-2-40:2013)		N/A
11.5	Test conducted in heating mode and cooling mode, if both exist (IEC 60335-2-40:2013)		P
	All supplementary heating elements operative simultaneously (IEC 60335-2-40:2013)		N/A
11.6	Defrost test in most unfavourable conditions, if needed (IEC 60335-2-40:2013)		N/A
11.7	Appliances operated continuously until steady conditions except for defrost tests (IEC 60335-2-40:2013)		P
11.8	Temperatures not exceeding values of table 3 (IEC 60335-2-40:2013)	(See appended tables)	P
	Protective devices do not operate (IEC 60335-2-40:2013)		P
	Sealing compound not flowing out (IEC 60335-2-40:2013)		P
	Temperature of air in outlet duct not exceed 90 °C (IEC 60335-2-40:2013)		N/A
11.9	Test casing and installation of appliances in accordance with manufacturer's instructions (IEC 60335-2-40:2013)		N/A
	Glass fibre insulation for appliances without indication of minimum clearances according to manufacturer; thermocouple in contact with enclosure (IEC 60335-2-40:2013)		N/A
13	**LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE**		**—**
13.1	Leakage current not excessive and electric strength adequate		P

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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).....:	1,06 x 240=254,4V	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A
13.2	The leakage current is measured by means of the circuit described in figure 4 of IEC 60990:1999		P
	For stationary class I appliances, the leakage current shall not exceed 2 mA per kilowatt rated power input with a maximum value of 10 mA for appliances accessible to the general public, and a maximum value of 30 mA for appliances not accessible to the general public. (IEC 60335-2-40:2013)		N/A
	Leakage current measurements .....:	(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.....:	(see appended table)	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 60335-2-40:2013)		P
	Motor-compressor not operated and detachable parts removed during tests of clause 15.2 and 15.3 (IEC 60335-2-40:2013)		P
15.2	Tests in accordance with IEC 60529 in appliances other than IPX0, as specified (IEC 60335-2-40:2013) .....:	IPX4 or IP24 for outdoor unit	P
15.3	Drain pan filled to brim and subjected to continuous overflow and fan(s) switched on (IEC 60335-2-40:2013)		P
15.101	Spillage test as specified (IEC 60335-2-40:2013)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	After spillage completed, appliance withstand test of clause 16 (IEC 60335-2-40:2013)		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) .....:	1,06 x 240=254,4V	P
	Three-phase appliances: test voltage 1,06 times rated voltage divided by √3 (V) .....:		N/A
	Leakage current measurements (IEC 60335-2-40:2013) .....:	(see appended table)	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 .....:	(see appended table)	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 .....:	(see appended table)	P
	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.....:	(see appended table)	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).....:		N/A
	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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe .....:	(see appended table)	P
	Failure of transfer medium flow, or of any control device, does not result in a hazard (IEC 60335-2-40:2013)		P
	Appliances are subjected to the tests specified in 19.2 to 19.10, 19.101, 19.102 and 19.103, as applicable. (IEC 60335-2-40:2013)		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		P
	Appliances incorporating voltage selector switches subjected to the test of 19.15		N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or		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 60335-2-40:2013)		N/A
19.3	Test at temperature permitting continuous operation of the motor-compressor and electric heating elements at same time (IEC 60335-2-40:2013)		N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test of appliance with any defect which expected during normal use (IEC 60335-2-40:2013)		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 60335-2-40:2013)		P
	Insulation of motor windings (IEC 60335-2-40:2013) .....:		P
	Temperature of enclosure does not exceed (°C) (IEC 60335-2-40:2013) .....:		P
	Temperature of the windings does not exceed the values shown in the table 8; temperature (°C) (IEC 60335-2-40:2013) .....:		P
	Electric strength test as specified in 16.3, 72 h after the beginning of the test (IEC 60335-2-40:2013)		P
	At the end, leakage current between windings and enclosure does not exceed 2 mA (IEC 60335-2-40:2013)		P
	Winding temperatures not exceeding values specified in table 8 .....:	(see appended table)	P
	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 60335-2-40:2013)		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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 60335-2-40:2013)		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 60335-2-40:2013)		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		P
	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
	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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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		P
	b) open circuit at the terminals of any component		P
	c) short circuit of capacitors, unless		P
	they comply with IEC 60384-14		P
	d) short circuit of any two terminals of an electronic component, other than integrated circuits		P
	This fault condition is not applied between the two circuits of an optocoupler		P
	e) failure of triacs in the diode mode		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 that operates to ensure compliance with clause 19, the appliance is tested as specified		N/A
19.11.4	The first paragraph of Part 1 in not applicable for stand-by mode if unintentional operation does not cause any hazards. (IEC 60335-2-40:2013)		P
	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

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Clause	Requirement + Test	Result - Remark	Verdict
	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 60335-2-40:2013)		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 60335-2-40:2013)		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 60335-2-40:2013)		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 60335-2-40:2013)		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 60335-2-40:2013)		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, at frequency ranges specified		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
	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode		N/A
	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling		N/A
	Earthed heating elements in class I appliances disconnected		N/A
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 60335-2-40:2013)		N/A
	The appliance continues to operate normally, or		N/A
	requires a manual operation to restart		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) .....:		P
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).....:	1000	P
	- supplementary insulation (V) .....:	1750	P
	- 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		N/A
	The appliance does not undergo a dangerous malfunction, and		P

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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		P
	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		N/A
	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 60335-2-40:2013)		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 60335-2-40:2013)		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 60335-2-40:2013)		P

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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 60335-2-40:2013)		P
	Disconnection of motor common to both the outdoor and the indoor heat exchangers when reaching steady conditions (IEC 60335-2-40:2013)		N/A
19.102	Test of appliances using water as heat transfer medium (IEC 60335-2-40:2013)		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 60335-2-40:2013)		P
	Test with the dry-bulb temperature 10 K over the values specified by manufacturer (IEC 60335-2-40:2013)		P
19.104	All appliances provided with supplementary heaters and free air discharge subjected to specified test in each mode of operation (IEC 60335-2-40:2013)		N/A
	During test temperature not exceed 150 °C but an overshoot of 25 °C is permitted during first hour (IEC 60335-2-40:2013)		N/A
	Thermal protective devices are allowed to operate. (IEC 60335-2-40:2013)		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

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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 60335-2-40:2013)		P
	Safety requirements of ISO 14903 apply (IEC 60335-2-40:2013)		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		P
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		N/A
	Appliances using flammable refrigerants withstand the effects of vibration during transport. (IEC 60335-2-40:2013)		N/A
	Appliance is tested in its final packaging for transport and shall withstand a random vibration test according to ASTM D4728-01. (IEC 60335-2-40:2013)		N/A
	Compliance is checked as specified (IEC 60335-2-40:2013)		N/A
22	**CONSTRUCTION**		**—**
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	IP24 for outdoor unit	P
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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 pins, for appliances having a capacitor with rated capacitance equal to or greater than 0,1 μF, the appliance being disconnected from the supply at the instant of voltage peak		N/A
	Voltage not exceeding 34 V (V) ..... :		N/A
	If compliance relies on the operation of an electronic circuit, the electromagnetic phenomena tests of 19.11.4.3 and 19.11.4.4 are applied		N/A
	The discharge test is then repeated three times, 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		P
	In case of doubt, test as described		N/A
	Electrical insulation not affected by snow penetration to appliance enclosure (IEC 60335-2-40:2013)		P

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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		P
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, if loosening result in a hazard		P
	Removing or fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible, if resulting in a hazard		N/A
	A choking hazard does not apply to appliances for commercial use		N/A
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		P
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If the part is removed and can be contained within the small parts cylinder, it is considered to be a choking hazard		N/A
22.13	Unlikely that handles, when gripped as in normal use, make the operator's hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only		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
	This requirement does not apply to the metallic fins of heat exchangers. (IEC 60335-2-40:2013)		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		P
	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		P
	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

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Clause	Requirement + Test	Result - Remark	Verdict
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 60335-2-40:2013)		N/A
	Bare heating elements not used with wood or wood composite enclosures. (IEC 60335-2-40:2013)		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

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Clause	Requirement + Test	Result - Remark	Verdict
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation		N/A
	Ceramic and similar porous 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, or		P
	unearthed metal parts separated from live parts by basic insulation only		N/A
	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		N/A
	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		N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless		N/A
	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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	This requirement does not apply to handles, levers and knobs on stationary appliances and cordless appliances, other than those of electrical components, provided they are reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal		N/A
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation		N/A
22.36	For appliances other than class III, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless		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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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
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 60335-2-40:2013)		N/A
	Alternative methods are used (IEC 60335-2-40:2013)		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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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
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
22.53	Class II appliances and class III appliances that incorporate functionally earthed parts have at least double insulation or reinforced insulation between live parts and the functionally earthed parts		N/A
22.54	Button cells and batteries designated R1 not accessible without the aid of a tool, unless		N/A
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously		N/A
22.55	Devices operated to stop the intended function of the appliance, if any, are be distinguished from other manual devices by means of shape, size, surface texture or position .....:		P
	The requirement concerning position does not preclude use of a push on push off switch		P
	An indication when the device has been operated is given by:		—
	- tactile feedback from the actuator or from the appliance, or		P
	- reduction in heat output; or		N/A
	- audible and visible feedback		N/A
22.56	Detachable power supply part provided with the part of class III construction		N/A
22.57	The properties of non-metallic materials do not degrade from exposure to UV-C radiation, as specified in annex T		N/A
	This requirement does not apply to glass, ceramics or similar materials		N/A
22.101	Appliances intended to be fixed, securely fixed (IEC 60335-2-40:2013)		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 60335-2-40:2013)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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 60335-2-40:2013)		N/A
	However, for appliances intended to be connected to fixed wiring, the neutral conductor need not be disconnected (IEC 60335-2-40:2013)		N/A
22.102.3	Thermal cut-outs of capillary type open in event of leakage from capillary tube (IEC 60335-2-40:2013)		N/A
22.103	Non-self-resetting cut-outs independent of other control devices (IEC 60335-2-40:2013)		N/A
22.104	Containers of sanitary hot water heat pumps withstand twice permissible operating pressure in closed containers (IEC 60335-2-40:2013) or		N/A
	0,15 MPa in open containers (IEC 60335-2-40:2013)		N/A
	without leakage or rupture (IEC 60335-2-40:2013)		N/A
22.105	Air or vapour cushion in closed containers not exceeding 10 % (IEC 60335-2-40:2013)		N/A
22.106	Pressure relief devices operating at 0,1 MPa over permissible operating pressure (IEC 60335-2-40:2013)		N/A
22.107	Water outlet systems of open containers free from obstruction causing over-pressure (IEC 60335-2-40:2013)		N/A
	Vented containers of sanitary hot water heat pumps always open to the atmosphere through appropriate aperture (IEC 60335-2-40:2013)		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 60335-2-40:2013)		N/A
	Container show no deformation which result in a hazard (IEC 60335-2-40:2013)		N/A
22.109	Replacement of non-self-resetting thermal cut-outs does not damage other connections (IEC 60335-2-40:2013)		N/A
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 60335-2-40:2013)		N/A
	Test repeated five times without blowing 3 A fuse which connects appliance to earth (IEC 60335-2-40:2013)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test as specified in clause 16.3 for supplementary heating elements (IEC 60335-2-40:2013)		N/A
22.111	Manual resetting of thermostats not necessary after power supply interruption (IEC 60335-2-40:2013)		N/A
22.112	Construction of refrigerating system comply with requirements of Section 3 of ISO 5149 (IEC 60335-2-40:2013)		P
22.113	Flammable refrigerant used, refrigerant tubing protected or enclosed to avoid mechanical damage (IEC 60335-2-40:2013)		N/A
	Tubing protected to extent that it will not be handled or used for carrying during moving of product (IEC 60335-2-40:2013)		N/A
	Tubing located within confines of cabinet considered to be protected from mechanical damage (IEC 60335-2-40:2013)		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 60335-2-40:2013)		N/A
22.115	Refrigerant charge (mc) of all refrigerating systems within appliance employing flammable refrigerants, not exceed m_3 defined in annex GG (IEC 60335-2-40:2013/am1:2016)		N/A
	The construction of the refrigerating system using flammable refrigerants shall comply with the requirements in Annex GG for (IEC 60335-2-40:2013/am1:2016)		----
	- the maximum refrigerant charge (m_{max}), (IEC 60335-2-40:2013/am1:2016)		N/A
	- the minimum floor area Amin, ((IEC 60335-2-40:2013/am1:2016)		N/A
	- mechanical ventilation, (IEC 60335-2-40:2013/am1:2016)		N/A
	- refrigerating systems employing secondary circuits. (IEC 60335-2-40:2013/am1:2016)		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 and connected ducts where electrical components, which could be a source of ignition and which could function under normal conditions or in event of leak, fitted (IEC 60335-2-40:2013/am1:2016)		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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 60335-2-40:2013)		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 60335-2-40:2013):		----
	- 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 60335-2-40:2013)		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 60335-2-40:2013)		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 60335-2-40:2013)		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 60335-2-40:2013)		N/A
22.118	Flammable refrigerant used, all appliances charged with refrigerant at manufacturing location or charged on site as recommended by manufacturer (IEC 60335-2-40:2013)		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 60335-2-40:2013):		----
	- 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 60335-2-40:2013)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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 60335-2-40:2013)		N/A
	- Refrigerant tubing shall be protected or enclosed to avoid damage (IEC 60335-2-40:2013)		N/A
	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 60335-2-40:2013)		N/A
22.119	Condensing units and evaporating units are equipped with a pressure limiting device or equivalent to assure that the equipment does not exceed the maximum allowable pressure. (IEC 60335-2-40:2013/am1:2016)		N/A
	For partial units, the interconnection circuits for signal communication between each unit shall be of the same type. (IEC 60335-2-40:2013/am1:2016)		N/A
22.120	Partial units shall be provided with a means of connection to the supply mains and shall not be powered by an electrical circuit from another appliance. (IEC 60335-2-40:2013/am1:2016)		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		P
	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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	100 flexings for conductors flexed during user maintenance		P
	Electric strength test of 16.3, 1000 V between live parts and accessible metal parts		P
	Not more than 10 % of the strands of any conductor broken, and		P
	not more than 30 % for wiring supplying circuits that consume no more than 15 W		P
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
	no breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		P
	For class II construction, the requirements for supplementary insulation and reinforced insulation apply,		N/A
	except that the sheath of a cord complying with IEC 60227 or IEC 60245 may provide supplementary insulation.		N/A
	A single layer of internal wiring insulation does not provide reinforced insulation		N/A
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		P
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**		—

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components.....:	(see appended table)	P
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance		P
	Relays tested as part of the appliance, or		P
	alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1		P
	The requirements of clause 29 apply between live parts of components and accessible parts of the appliance		P
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard		P
	30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections		P
	Components that have not been previously tested to comply with the IEC standard for the relevant component are tested according to the requirements of 30.2		P
	Components that have been previously tested to comply with the resistance to fire requirements in the IEC standard for the relevant component need not be retested provided the specified conditions are met		P
	If these conditions are not satisfied, the component is tested as part of the appliance.		P
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance		N/A
	If components have not been tested and found to comply with relevant IEC standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		P
	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

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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
	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		N/A
	Motor-compressors not tested according to IEC 60335-2-34 (not necessary to meet all requirements of IEC 60335-2-34) (IEC 60335-2-40:2013)		P
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, comply with IEC 60384-14		P
	If the capacitors have to be tested, they are tested according to annex F		N/A
24.1.2	Transformers in associated switch mode power supplies comply with annex BB of IEC 61558-2-16		P
	Safety isolating transformers comply 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 comply 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 staring 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 comply 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: ..... 3000 (IEC 60335-2-40:2013)		N/A
	- voltage maintained non-self-resetting thermal cut-outs: 1 000		N/A
	- other non-self-resetting thermal cut-outs: ..... 300 (IEC 60335-2-40:2013)		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- timers: 3 000		N/A
	- energy regulators: 10 000		N/A
	- thermostats which control motor-compressor (IEC 60335-2-40:2013) 100 000		N/A
	- motor-compressor starting relays (IEC 60335-2-40:2013) 100 000		N/A
	- automatic thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (not less than number of operations during locked rotor test) (IEC 60335-2-40:2013) ..... min 2000		P
	- manual reset thermal motor-protectors for hermetic and semi-hermetic type motor-compressors (IEC 60335-2-40:2013) 50		N/A
	- other automatic thermal motor-protectors (IEC 60335-2-40:2013) 2000		P
	- other manual reset thermal motor-protectors (IEC 60335-2-40:2013) 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
	Thermal cut-outs of the capillary type comply with the requirements for type 2.K controls in IEC 60730-2-9		N/A
24.1.5	Appliance couplers comply with IEC 60320-1		N/A
	However, for class II appliances classified higher than IPX0, the appliance couplers comply with IEC 60320-2-3		N/A
	Interconnection couplers comply with IEC 60320-2-2		N/A
24.1.6	Small lamp holders similar to E10 lampholders comply with IEC 60238, the requirements for E10 lampholders being applicable		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

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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
	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, automatic controls or power supplies in flexible cords		N/A
	- 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 melding 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

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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
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 S2 or S3 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 60335-2-40:2013)		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, the current rating and voltage rating of the plug being not less than the corresponding ratings of its associated appliance		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 60335-2-40:2013):		----
	- appliance only for indoor use (IEC 60335-2-40:2013)		N/A
	- marked with rating of 25 A or less and (IEC 60335-2-40:2013)		N/A
	- complies with code requirements of country where it will be used (IEC 60335-2-40:2013)		N/A
	Appliance inlet not allowed (IEC 60335-2-40:2013)		N/A
25.2	Appliance not provided with more than one means of connection to the supply mains		P

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown		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:		—
	- a set of terminals allowing the connection of a flexible cord		P
	- a fitted supply cord		N/A
	- 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

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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)		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
	- halogen-free, low smoke, thermoplastic insulated and sheathed		—
	- light duty halogen-free low smoke flexible cable (62821 IEC 101) for circular cable and (62821 IEC 101f) for flat cable		N/A
	- Ordinary duty halogen-free low smoke flexible cable (62821 IEC 102) for circular cable and (62821 IEC 102f(for flat cable		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 60335-2-40:2013)		P
25.8	Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm^2) ..... :	See table 24.1	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
	In multi-phase appliances, the colour of the neutral conductor of the supply cord is blue		N/A
	Where additional neutral conductors are provided in the supply cord:		—
	- other colours may be used for these additional neutral conductors;		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- all of the neutral conductors and line conductors are identified by marking using the alpha numeric notation specified in IEC 60445		N/A
	- the supply cord is fitted to the appliance		N/A
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 it is not evident that the supply cord can be introduced without risk of damage, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided		N/A
	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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Pull and torque test of supply cord:		—
	- fixed appliances: pull 100 N; torque (not on automatic cord reel) (Nm) ..... :	100N; 0,35Nm	P
	- other appliances: values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm) ..... :		N/A
	Cord not damaged and max. 2 mm displacement of the cord		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
	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		P

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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 conductors of the supply cord for type Y and Z attachment insulated from accessible metal parts		N/A
25.21	Space for supply cord for type X attachment or for connection of fixed wiring constructed:		—
	- 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		N/A
	- for portable appliances, so that the uninsulated end of a conductor, if it becomes free from the terminal, prevented from contact with accessible metal parts		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:		—
	- 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
	- for class I or class II appliance with class III construction, the cross sectional areas of the conductors need not comply with 25.8 if specified conditions are met		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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
	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		P
26.2	Appliances with type X attachment and appliances for the connection of cables of fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless		P
	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		P
	Terminals fixed so that when the clamping means is tightened or loosened:		—
	- the terminal does not become loose		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- internal wiring is not subjected to stress		P
	- neither clearances nor creepage distances are reduced below the values in clause 29		P
	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) ..... :		P
	No deep or sharp indentations of the conductors		P
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		P
	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened		P
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^2) ..... :		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		P
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		P
	conductors ends fitted with means suitable for screw terminals		N/A
	Pull test of 5 N to the connection		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used		N/A
	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**		**—**
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 protective earthing		N/A
	Class II appliances and class III appliances can incorporate an earth for functional purposes		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 mm², 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
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		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
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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		P
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		P
	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		P
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		P
27.5	Low resistance of connection between earthing terminal and earthed metal parts		P
	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
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
	Resistance not exceeding 0,1 Ω at the specified low-resistance test (Ω) ..... :	Max.: 0,010Ω	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 60335-2-40:2013)		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
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
28	**SCREWS AND CONNECTIONS**		—

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
	For type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw impairs basic insulation		N/A
	For screws and nuts; torque-test as specified in table 14 ..... :	(see appended table)	P
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		N/A
	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		N/A
	Thread-cutting (self-tapping) screws and thread rolling screws only used for electrical connections if they generate a full form standard machine screw thread		N/A
	Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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,		P
	- during user maintenance,		P
	- when replacing a supply cord having a type X attachment, or		N/A
	- during installation		P
	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
	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 60335-2-40:2013)		N/A
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless..... :	(see appended table)	P

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	For appliances intended for use at altitudes exceeding 2 000 m, the clearances in Table 16 is increased according to the relevant multiplier values in Table A.2 of IEC 60664-1		N/A
	Impulse voltage test is not applicable:		—
	- when the microenvironment is pollution degree 3, or		N/A
	- for basic insulation of class 0 and class 01 appliances, or		N/A
	- to appliances intended for use at altitudes exceeding 2 000 m		N/A
	Appliances are in overvoltage category II		P
	A force of 2 N is applied to bare conductors, other than heating elements		P
	A force of 30 N is applied to accessible surfaces		P
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		N/A
29.1.4	Clearances for functional insulation are the largest values determined from:		—

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- table 16 based on the rated impulse voltage..... :	(see appended table)	P
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N/A
	- 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		N/A
	the distances can be affected by wear, distortion, movement of the parts or during assembly		N/A
	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 1 mm		N/A
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		N/A
	- 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

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Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
	A force of 2 N is applied to bare conductors, other than heating elements		P
	A force of 30 N is applied to accessible surfaces		P
	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		N/A
	Insulation located in airflow, pollution degree 3 unless (IEC 60335-2-40:2013)		N/A
	insulation enclosed or located so that unlikely to be exposed to pollution due to normal use (IEC 60335-2-40:2013)		N/A
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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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
	- by an electric strength test in accordance with 29.3.2, or		N/A
	- for insulation, other than single layer internal wiring insulation, by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and		N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		N/A
	- by an assessment of the thermal quality of the material according to 29.3.3 combined with an electric strength test in accordance with 23.5, for each single layer internal wiring insulation touching each other, or		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		N/A
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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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 30.1)	N/A
	Parts supporting live parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C) ..... :	(see appended table 30.1)	P
	Parts of thermoplastic material providing supplementary or reinforced insulation tested at 25 °C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C)..... :	(see appended table 30.1)	N/A
30.2	Parts of non-metallic material resistant to ignition and spread of fire		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		P
	Compliance checked by the test of 30.2.1, and in addition:		P
	- 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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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	(see appended table 30.2)	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
	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	(see appended table 30.2)	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 the glow-wire test of IEC 60695-2-11 with appropriate severity level:	(see appended table 30.2)	P
	- 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

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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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	(see appended table 30.2/30.2.4)	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 60335-2-40:2013)		P
	Before test, coatings are scratched by means of a harden steel pin as specified (IEC 60335-2-40:2013)		P
	Five scratches made at least 5 mm apart and at least 5 mm from the edges (IEC 60335-2-40:2013)		P
	Appliance not deteriorated to such an extent that compliance with clause 8 and 27 is impaired (IEC 60335-2-40:2013)		P
	Coating not be broken and not loosened from the metal surface (IEC 60335-2-40:2013)		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 THAT ARE RECHARGED IN THE APPLIANCE**		**—**
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance		N/A
	Three forms of construction covered:		—
	a) Appliance supplied directly from the supply mains or a renewable energy source, the battery charging circuitry and other supply unit circuitry incorporated within the appliance		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	b) The part of the appliance incorporating the battery is supplied from the supply mains or a renewable energy source, via a detachable supply unit. The battery charging circuitry is incorporated within the part of the appliance containing the battery		N/A
	c) The part of the appliance incorporating the battery is supplied from the supply mains or a renewable energy source, via a detachable supply unit. The battery charging circuitry is incorporated within the detachable supply unit		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
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage (V) 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
	Appliances intending to be supplied from a detachable supply unit marked with symbol IEC 60417-6181 and its type reference along with symbol ISO 7000-0790 (2004-01), or		N/A
	use only with <model designation> supply unit ...:		N/A
7.6	Additional symbols		N/A
7.12	The instructions give information regarding charging		N/A
	Instructions for appliances incorporating batteries intended to be replaced by the user include required information		N/A

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Instructions for appliances containing non user-replaceable batteries state the substance of the following:		—
	This appliance contains batteries that are only replaceable by skilled persons		N/A
	Instructions for appliances containing non-replaceable batteries shall state the substance of the following:		—
	This appliance contains batteries that are non-replaceable		N/A
	For appliances intending to be supplied from a detachable supply unit for the purposes of recharging the battery, the type reference of the detachable supply unit is stated along with the following:		—
	WARNING: For the purposes of recharging the battery, only use the detachable supply unit provided with this appliance		N/A
	If the symbol for detachable supply unit is used, its meaning is explained		N/A
7.15	Markings placed on the part of the appliance connected to the supply mains		N/A
	The type reference of the detachable supply unit is placed in close proximity to the symbol		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
11.8	Temperature rise of the battery surface does not exceed the limit in the battery manufacturer's specification; measured (K); limit (K).....:		N/A
	If no limit specified, the temperature rise does not exceed 20 K; measured (K) .....:		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

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
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
19.13	The battery does not rupture or ignite		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
	- 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:		—
7	Severities		—
	The duration of application of the test flame is 30 s ± 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

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	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
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		—
	Clause 20 is applicable to clearances across full disconnection and micro-disconnection		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	It is also applicable to 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		—
	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

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Clause	Requirement + Test	Result - Remark	Verdict
M	**ANNEX M (NORMATIVE) POLLUTION DEGREE**		**—**
	The information on pollution degrees is extracted from IEC 60664-1		P
	Pollution		—
	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		P
	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		N/A
	- 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:		—
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

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	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		—
	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 TROPICAL CLIMATES**		**—**
	Modifications applicable for class 0 and 0I appliances having a rated voltage exceeding 150 V, intended to be used in countries having a tropical climate and that are marked with symbol IEC 60417-6332		—
	Modifications may also be applied to class 1 appliances having a rated voltage exceeding 150 V, intended to be used in countries having a tropical climate and that are marked with symbol IEC 60417-6332, 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 symbol IEC 60417-6332		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 tropical climate, but may also be used in other countries		N/A
	If symbol IEC 60417-6332 is used, its meaning is explained		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**		**—**

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IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Description of tests for appliances incorporating electronic circuits		—
R	**ANNEX R (NORMATIVE) SOFTWARE EVALUATION**		**—**
	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		—
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		—
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:		—
	- input signals present during normal operation		N/A
	- anticipated occurrences		N/A
	- undesired conditions requiring system action		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

TABLE R.1 [e] – GENERAL FAULT/ERROR CONDITIONS						
Component [a]	Fault/error	Acceptable measures [b, c]	Definitions	Document reference for applied measure	Document reference for applied test	Verdict
1 CPU 1.1 Registers	Stuck at	Functional test, or periodic self-test using either: - static memory test, or - word protection with single bit redundancy	H.2.16.5 H.2.16.6 H.2.19.6 H.2.19.8.2			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 synchronized clock: harmonics/ sub-harmonics 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

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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
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	Time-slot monitoring, or scheduled transmission Time-slot and logical monitoring, or comparison of redundant communication channels by either: - reciprocal comparison - independent hardware comparator	H.2.18.10.4 H.2.18.18 H.2.18.10.3 H.2.18.15 H.2.18.3			N/A
	Wrong sequence	Logical monitoring, or time-slot monitoring, or Scheduled transmission	H.2.18.10.2 H.2.18.10.4 H.2.18.18			
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 7.2.1 A/D and D/A-converter	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13			N/A

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Clause	Requirement + Test	Result - Remark	Verdict

7.2.2 Analog multiplexer	Wrong addressing	Plausibility check	H.2.18.13			N/A
8 VOID						N/A
9 Custom chips [d] e.g. ASIC, GAL, gate array	Any output outside the static and dynamic functional specification	Periodic self-test	H.2.16.6			N/A
NOTE A Stuck-at fault model denotes a fault model representing an open circuit or a non-varying signal level. A DC fault model denotes a stuck-at fault model incorporating short circuit between signal lines.						
[a] For fault/error assessment, some components are divided into their sub-functions. [b] For each sub-function in the table, the Table R.2 measure will cover the software fault/error. [c] Where more than one measure is given for a sub-function, these are alternatives. [d] To be divided as necessary by the manufacturer into sub-functions. [e] Table R.1 is applied according to the requirements of R.1 to R.2.2.9 inclusive.						

S	**ANNEX S (NORMATIVE) BATTERY OPERATED APPLIANCES POWERED BY BATTERIES THAT ARE NON-RECHARGEABLE OR NOT RECHARGED IN THE APPLIANCE**		**—**
	The following modifications to this standard are applicable for battery-operated appliances where the batteries are either non-rechargeable (primary batteries), or		N/A
	rechargeable batteries (secondary batteries) that are not recharged in the appliance		N/A
5.8.1	If the supply terminals for the connection of the battery have no indication of polarity, the more unfavourable polarity is applied		N/A
5.S.101	Appliances intended for use with a battery box are tested with the battery box supplied with the appliance or with the battery box recommended in the instructions		N/A
5.S.102	Appliances are tested as motor-operated appliances.		N/A
7.1	Appliances marked with the battery voltage (V) and the polarity of the terminals, unless ..... :		N/A
	the polarity is irrelevant		N/A
	Appliances also marked with:		—
	- name, trade mark or identification mark of the manufacturer or responsible vendor ..... :		N/A
	- model or type reference ..... :		N/A
	- IP number according to degree of protection against ingress of water, other than IPX0 ..... :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- type reference of battery or batteries..... :		N/A
	If relevant, the positive terminal is indicated by the symbol IEC 60417-5005 and the negative terminal by the symbol IEC 60417-5006		N/A
	If appliances use more than one battery, they are marked to indicate correct polarity connection of the batteries		N/A
7.6	Additional symbols		N/A
7.12	The instructions contain the following, as applicable:		—
	- the types of batteries that may be used..... :		N/A
	- how to remove and insert the batteries		N/A
	- non-rechargeable batteries are not to be recharged		N/A
	- rechargeable batteries are to be removed from the appliance before being charged		N/A
	- different types of batteries or new and used batteries are not to be mixed		N/A
	- batteries are to be inserted with the correct polarity		N/A
	- exhausted batteries are to be removed from the appliance and safely disposed of		N/A
	- if the appliance is to be stored unused for a long period, the batteries are removed		N/A
	- the supply terminals are not to be short-circuited		N/A
11.5	Appliances are supplied with the most unfavourable supply voltage between		—
	- 0,55 and 1,0 times the battery voltage, if the appliance can be used with non-rechargeable batteries		N/A
	- 0,75 and 1,0 times battery voltage, if the appliance is designed for use with rechargeable batteries only		N/A
	The values specified in Table S.101 for the internal resistance per cell of the battery is taken into account		N/A
19.1	The tests are carried out with the battery fully charged unless otherwise specified		N/A
19.13	The battery does not rupture or ignite		N/A
19.S.101	Appliances are supplied with the voltage specified in 11.5. The supply terminals having an indication of polarity are connected to the opposite polarity, unless		N/A
	such a connection is unlikely to occur due to the construction of the appliance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
19.S.102	For appliances with provision for multiple batteries, one or more of the batteries are reversed and the appliance is operated, if reversal of batteries is allowed by the construction		N/A
25.5	The flexible leads or flexible cord used to connect an external battery or battery box in is connected to the appliance by a type X attachment		N/A
25.13	This requirement is not applicable to the flexible leads or flexible cord connecting external batteries or a battery box with an appliance		N/A
25.S.101	Appliances have suitable means for connection of the battery. If the type of battery is marked on the appliance, the means of connection is suitable for this type of battery		N/A
26.5	Terminal devices in an appliance for the connection of the flexible leads or flexible cord connecting an external battery or battery box are so located or shielded that there is no risk of accidental connection between supply terminals		N/A
30.2.3.2	There is no battery in the area of the vertical cylinder used for the consequential needle flame test, unless		N/A
	the battery is shielded by a barrier that meets the needle flame test of annex E, or		N/A
	that comprises material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
T	**ANNEX T (NORMATIVE)** **UV-C RADIATION EFFECT ON NON-METALLIC MATERIALS**		—
	Requirements for non-metallic materials subject to direct or reflected UV-C radiation exposure and whose mechanical and electrical properties are relied upon for compliance with the		N/A
	Does not apply to glass, ceramic and similar materials		N/A
	Tested as specified in ISO 4892-1 and ISO 4892-2, with the following modifications:		—
	Modifications to ISO 4892-1:		—
5.1.6	The UV-C emitter is a low pressure mercury lamp with a quartz envelope having a continuous spectral irradiance of 10 W/m2 at 254 nm		N/A
	Subclause 5.1.6.1 and Table 1 are not applicable		N/A
5.2.4	The black-panel temperature shall be 63 °C +/- 3 °C		N/A
5.3.1	Humidification of the chamber air is specified in part 2 when necessary		N/A
9	This clause is not applicable		N/A

IEC 60335-2-40			
Clause	Requirement + Test	Result - Remark	Verdict
	Modifications to ISO 4892-2:		—
7.1	At least three test specimens are tested		N/A
	Ten samples of internal wiring is tested		N/A
7.2	The specimens are attached to the specimen holders such that they are not subject to any stress		N/A
7.3	Apparatus prepared as specified		N/A
	The test specimens and, if used, the irradiance-measuring instrument are exposed for 1 000 h		N/A
7.4	If used, a radiometer is mounted and calibrated such that it measures the irradiance at the exposed surface of the test specimen		N/A
7.5	Material properties and test methods for parts providing mechanical support or impact resistance as specified in Table T.1		N/A
	Material properties and test method for electrical insulation of internal wiring as specified in Table T.2		N/A
8	This clause is not applicable		N/A
AA	**ANNEX AA (INFORMATIVE) (IEC 60335-2-40:2013) EXAMPLES FOR OPERATING TEMPERATURES OF THE APPLIANCE**		----
BB	**ANNEX BB (NORMATIVE) (IEC 60335-2-40:2013) SELECTED INFORMATION ABOUT REFRIGERANTS**		----
CC	**ANNEX CC (INFORMATIVE) (IEC 60335-2-40:2013) TRANSPORTATION, MARKING AND STORAGE FOR UNITS THAT EMPLOY FLAMMABLE REFRIGERANTS**		----
CC.1	Transport of equipment containing flammable refrigerants (IEC 60335-2-40:2013)		N/A
CC.2	Marking of equipment using signs (IEC 60335-2-40:2013)		N/A
CC.3	Disposal of equipment using flammable refrigerants (IEC 60335-2-40:2013)		N/A
CC.4	Storage of equipment/appliances (IEC 60335-2-40:2013)		N/A
CC.5	Storage of packed (unsold) equipment (IEC 60335-2-40:2013)		N/A
DD	**ANNEX DD (NORMATIVE) (IEC 60335-2-40:2013) INSTRUCTION MANUAL FOR SERVICING REFRIGERANT CONTAINING APPLIANCES**		----
DD.1	Symbols (IEC 60335-2-40:2013)		N/A
DD.2.	Information in manual (IEC 60335-2-40:2013)		N/A
DD.2.1	General (IEC 60335-2-40:2013/am1:2016)		N/A
DD.2.2	Unventilated areas (IEC 60335-2-40:2013)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
DD.2.3	Qualification of workers (IEC 60335-2-40:2013)		N/A
DD.3	Information on servicing (IEC 60335-2-40:2013)		N/A
DD3.1	Checks to the area (IEC 60335-2-40:2013)		N/A
DD.3.2	Work procedure (IEC 60335-2-40:2013)		N/A
DD.3.3	General work area (IEC 60335-2-40:2013)		N/A
DD.3.4	Checking for presence of refrigerant (IEC 60335-2-40:2013)		N/A
DD.3.5	Presence of fire extinguisher (IEC 60335-2-40:2013)		N/A
DD.3.6	No ignition sources (IEC 60335-2-40:2013)		N/A
DD.3.7	Ventilated area (IEC 60335-2-40:2013)		N/A
DD.3.8	Checks to the refrigeration equipment (IEC 60335-2-40:2013/am1:2016)		N/A
DD.3.9	Checks to electrical devices (IEC 60335-2-40:2013)		N/A
DD.4	Repairs to sealed components (IEC 60335-2-40:2013)		N/A
DD.5	Repair to intrinsically safe components (IEC 60335-2-40:2013)		N/A
DD.6	Cabling (IEC 60335-2-40:2013)		N/A
DD.7	Detection of flammable refrigerants (IEC 60335-2-40:2013)		N/A
DD.8	Leak detection methods (IEC 60335-2-40:2013)		N/A
DD.9	Removal and evacuation (IEC 60335-2-40:2013)		N/A
DD.10	Charging procedures (IEC 60335-2-40:2013)		N/A
DD.11	Decommissioning (IEC 60335-2-40:2013)		N/A
DD.12	Labelling (IEC 60335-2-40:2013)		N/A
DD.13	Recovery (IEC 60335-2-40:2013)		N/A
EE	**ANNEX EE (NORMATIVE) (IEC 60335-2-40:2013) PRESSURE TESTS**		----
EE.1	General (IEC 60335-2-40:2013)		P
EE.2	Pressure test value determined under testing carried out in clause 11 (IEC 60335-2-40:2013)		P
EE.3	Pressure test value determined under testing carried out in clause 19 (IEC 60335-2-40:2013)		P
EE.4	Pressure test value determined under testing carried out under standstill conditions (IEC 60335-2-40:2013)		P
EE.5	Fatigue test option for Clauses EE.1 and EE.4.1 (IEC 60335-2-40:2013)		N/A

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

FF	**ANNEX FF (NORMATIVE) (IEC 60335-2-40:2013) LEAK SIMULATION TEST**		----
FF.1	General (IEC 60335-2-40:2013/am1:2016)		N/A
FF.2	Test methods (IEC 60335-2-40:2013/am1:2016)		N/A
GG	**ANNEX GG (NORMATIVE) (IEC 60335-2-40:2013) CHARGE LIMITS, VENTILATION REQUIREMENTS AND REQUIREMENTS FOR SECONDARY CIRCUITS**		----
GG.1	General (IEC 60335-2-40:2013/am1:2016)		N/A
GG.2	Requirements for charge limits in unventilated areas (IEC 60335-2-40:2013/am1:2016)		N/A
GG.3	Requirements for charge limits in areas with mechanical ventilation areas (IEC 60335-2-40:2013/am1:2016)		N/A
GG.4	Requirements for mechanical ventilation within the appliance enclosure (IEC 60335-2-40:2013/am1:2016)		N/A
GG.5	Requirements for mechanical ventilation for rooms complying with ISO 5149 (IEC 60335-2-40:2013)		N/A
GG.6	Requirements for refrigeration systems employing secondary heat exchangers (IEC 60335-2-40:2013)		N/A
GG.7	Additional testing (IEC 60335-2-40:2013)		N/A
GG.8	Non fixed factory sealed single package units with a refrigerant charge amount of $m_1 < m_c \leq 2 \times m_1$ (IEC 60335-2-40:2013/am1:2016)		N/A

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10.1	TABLE: Power input deviation				P
Input deviation of/at:	P rated (W)	P measured (W)	Δ P	Required Δ P	Remark
VDMA-CTT012T03					
230V, 50Hz	1400	1266.8	-9,5%	+15%	Cooling mode
220V, 50Hz	1400	1278,6	For reference	For reference	Cooling mode
240V, 50Hz	1400	1272,1	For reference	For reference	Cooling mode
VDMA-CTT018T03					
230V, 50Hz	2200	2094	-4,8%	+15%	Cooling mode
220V, 50Hz	2200	2066	For reference	For reference	Cooling mode
240V, 50Hz	2200	2040	For reference	For reference	Cooling mode
VDMA-CTT024T03A					
230V, 50Hz	2650	2551,5	-3,7%	+15%	Cooling mode
220V, 50Hz	2650	2705,0	For reference	For reference	Cooling mode
240V, 50Hz	2650	2711,0	For reference	For reference	Cooling mode
VDMA-CTT028T03A					
230V, 50Hz	3250	3044,0	-6,3%	+15%	Cooling mode
240V, 50Hz	3250	3127	For reference	For reference	Cooling mode
220V, 50Hz	3250	3007	For reference	For reference	Cooling mode
Supplementary information: The severest test result listed.					

10.2	TABLE: Current deviation				P
Current deviation of/at:	I rated (A)	I measured (A)	Δ I	Required Δ I	Remark
VDMA-CTT012T03					
230V, 50Hz	8,0	7,3	-8,75%	+15%	Cooling mode
220V, 50Hz	8,0	7,6	For reference	For reference	Cooling mode
240V, 50Hz	8,0	7,0	For reference	For reference	Cooling mode
VDMA-CTT018T03					
230V, 50Hz	11,1	10,6	-4,5%	+15%	Cooling mode
220V, 50Hz	11,1	11,1	For reference	For reference	Cooling mode
240V, 50Hz	11,1	9,9	For reference	For reference	Cooling mode
VDMA-CTT024T03A					
230V, 50Hz	13,0	11,9	-8,5%	+15%	Cooling mode
220V, 50Hz	13,0	12,3	For reference	For reference	Cooling mode
240V, 50Hz	13,0	11,3	For reference	For reference	Cooling mode
VDMA-CTT028T03A					
230V, 50Hz	15,8	13,8	-12,7%	+15%	Cooling mode

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240V, 50Hz	15,8	12,91	For reference	For reference	Cooling mode
220V, 50Hz	15,8	13,85	For reference	For reference	Cooling mode
Supplementary information: The severest test result listed.					

11.8-1	**TABLE: Heating test for VDMA-CTT012T03**		P
	Test voltage (V)..... .....:	254,4V, 50Hz	—
	Ambient (°C) .....:	Indoor: 32/23; Outdoor: 52/31	—

Thermocouple locations	Max. temperature measured, T (°C)	Max. temperature limit, T (°C)
Indoor unit:		
Power cord	38,9	75
Terminal Board	33,4	85
Transformer	45,8	Class E: 105
Fan motor enclosure	54,3	For reference
Swing motor surface	40,0	For reference
Fan motor running capacitor	34,7	T70
PCB	33,9	145
Varistor	37,0	T85
X capacitor	39,6	T100
Relay	47,6	T70
Outdoor unit:		
Compressor wire	58,7	75
Fan motor surface	73,8	For reference
Compressor top	88,4	For reference
Compressor motor capacitor	57,1	T70
Fan motor capacitor	56,6	T70
Terminal Board	55,2	85
Test corner	59,0	90
Supplementary information: All alternative components have been tested, the severest test result listed.		

11.8-1	**TABLE: Heating test, resistance method**		P
	Test voltage (V).....:	254,4V, 50Hz	—
	Ambient, t1 (°C) .....:	25	—
	Ambient, t2 (°C) .....:	Indoor: 32/23; Outdoor: 52/31	—

Temperature rise of winding	R1 (Ω)	R2 (Ω)	T (°C)	Max. T (°C)	Insulation class
Main winding of indoor fan motor FN20N-PG_KAIBANG	357,1	403,5	64,5	115	E

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Aux Winding of indoor fan motor FN20N-PG_KAIBANG	472,2	529,3	62,1	115	E
Main winding of indoor fan motor FN20N-PG_Tongde	273,3	307,1	62,9	115	E
Aux Winding of indoor fan motor FN20N-PG_Tongde	432,3	482,3	60,7	115	E
Main winding of indoor fan motor FN20V-PG_KAIBANG	214,1	239,8	61,8	115	E
Aux Winding of indoor fan motor FN20V-PG_KAIBANG	367,1	408,4	59,9	115	E
Main winding of indoor fan motor FN20V-PG_Wolong	179,5	201,4	62,5	115	E
Aux Winding of indoor fan motor FN20V-PG_Wolong	257,9	257,9	60,1	115	E
Main winding of indoor fan motor FN20V-PG_Tongde	231,3	231,3	60,4	115	E
Aux Winding of indoor fan motor FN20V-PG_Tongde	345,0	345,0	59,0	115	E
Main winding of outdoor fan motor FW25K-1_Kaibang	268,7	323,7	84,3	120	B
Aux Winding of outdoor fan motor FW25K-1_Kaibang	178,2	213,1	81,9	120	B
Main winding of outdoor fan motor FW25K-1_Nan-Feng	245,0	292,8	81,7	120	B
Aux Winding of outdoor fan motor FW25K-1_Nan-Feng	158,1	187,7	79,7	120	B
Main winding of outdoor fan motor FW25K-1_Broad-Ocean	267,1	321,1	83,6	120	B
Aux Winding of outdoor fan motor FW25K-1_ Broad-Ocean	186,4	222,4	81,2	120	B
Main winding of outdoor fan motor FW25K-1_Tongde	260,0	312,2	83,2	120	B
Aux Winding of outdoor fan motor FW25K-1_Tongde	131,5	156,9	81,1	120	B
Main winding of outdoor fan motor FW25K-1_LT	256,9	306,3	80,9	120	B
Aux Winding of outdoor fan motor FW25K-1_LT	188,7	223,6	79,2	120	B
Main Winding of compressor QXAH-C122E030	2,74	3,45	98,5	140	Synthetic
Aux Winding of compressor QXAH-C122E030	2,78	3,48	96,1	140	Synthetic
Supplementary information: ----					

11.8-2	**TABLE: Heating test, thermocouples for VDMA-CTT018T03**	P

	Test voltage (V)	1,06*240V=254,4V	—
	Ambient, t_1 (°C)	Cooling mode: 32/23(IU); 54/26(OU)	—
	Ambient, t_2 (°C)		—

Thermocouple locations	Max. temperature measured, T (°C)		Max. temperature limit, T (°C)
	Cooling	Heating	
Indoor unit			
Power cord	35,1	—	75
Transformer	46,7	—	105 (Class E)
Fan motor	59,3	—	For reference
Swing motor	37,9	—	For reference
X2 Capacitor	30,9	—	T100
PCB	34,0	—	145
Varistor	45,2	—	T85
Relay for fan motor	46,2	—	T70
Relay for compressor	34,9	—	T70
Test corner	30,6	—	90
Outdoor unit			
Terminal block	54,8	—	85
Lead wire of compressor	61,0	—	75
Surface of fan motor	88,1	—	For reference
Surface of compressor	88,3	—	For reference
Discharge pipe	83,8	—	For reference
Outdoor fan motor running capacitor	55,8	—	T70
Compressor running capacitor	61,0	—	T70
Interconnection cord	56,2	—	75
Test corner	54,3	—	90
Remark: tested with all alternative fan motors and recorded the maximum value.			

11.8-2	**TABLE: Heating test, resistance**		P
	Test voltage (V).....:	1,06*240V=254,4V	—
	Ambient, t_1 (°C).....:	25	—
	Ambient, t_2 (°C).....:	Cooling mode: 32/23(IU); 54/26(OU)	—

Temperature of winding	R_1 (Ω)	R_2 (Ω)		T (°C)		Max. T (°C)	Insulation class
		Cooling	Heating	Cooling	Heating		
Main winding of indoor fan motor FN35A-PG_KAIBANG	127,5	114,5	—	65,4	—	115	E

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Aux. winding of indoor fan motor FN35A-PG_KAIBANG	150,6	169,4	—	63,1	—	115	E
Main winding of outdoor fan motor LW60J_ Nan-Feng	91,8	114,8	—	96,2	—	120	B
Aux. winding of outdoor fan motor LW60J_ Nan-Feng	114,7	142,3	—	93,8	—	120	B
Main winding of outdoor fan motor LW60J_ Broad-Ocean	108,6	136,3	—	97,6	—	120	B
Aux. winding of outdoor fan motor LW60J_ Broad-Ocean	134,6	167,7	—	95,1	—	120	B
Main winding of outdoor fan motor LW60J_Kaibang	85,3	106,9	—	96,9	—	120	B
Aux. winding of outdoor fan motor LW60J_Kaibang	94,4	117,3	—	94,2	—	120	B
Main winding of outdoor fan motor LW60J_Wolong	118,3	149,1	—	99,0	—	120	B
Aux. winding of outdoor fan motor LW60J_Wolong	147,8	184,9	—	96,5	—	120	B
Main winding of outdoor fan motor LW60J_Tongde	80,5	100,0	—	94,0	—	120	B
Aux. winding of outdoor fan motor LW60J_Tongde	118,3	145,8	—	91,7	—	120	B
Main winding of outdoor fan motor LW60J_ LT	79,7	98,8	—	93,5	—	120	B
Aux. winding of outdoor fan motor LW60J_ LT	101,4	124,8	—	91,3	—	120	B
Main winding of compressor QXAH-F19F450	2,09	2,64	—	99,5	—	140	Synthetic
Aux. winding of compressor QXAH-F19F450	1,91	2,39	—	97,9	—	140	Synthetic

11.8-3	**TABLE: Heating test, thermocouples for VDMA-CTT024T03A**		P
	Test voltage (V)	1,06x240V=254,4V	—
	Ambient, t_1 (°C)	Cooling mode: 32/23(IU); 54/29(OU)	—
	Ambient, t_2 (°C)		—

Thermocouple locations	T (°C)		Max. T (°C)
	Cooling	Heating	
Indoor unit			
Power cord	37,6	—	75
Terminal block	32,4	—	85
Transformer	37,6	—	110 (Class B)
Fan motor	52,6	—	For reference

Swing motor	38,7	—	For reference
X2 Capacitor	31,3	—	T100
PCB	33,1	—	145
Varistor	31,3	—	T85
Relay for fan motor	30,6	—	T70
Relay for compressor	29,7	—	T70
Outdoor unit			
Terminal block	44,2	—	85
Lead wire of compressor	46,6	—	75
Surface of fan motor	38,7	—	For reference
Surface of compressor	91,8	—	For reference
Discharge pipe	101,6	—	For reference
X2 Capacitor	45,7	—	T100
Relay	45,3	—	T70
Interconnection cord	47,4	—	75
Test corner	37,0	—	90
Remark: tested with all alternative fan motors and recorded the maximum value.			

11.8-2	**TABLE: Heating test, resistance**		P
	Test voltage (V) ..... :	1,06x240V=254,4V	—
	Ambient, t_1 (°C) ..... :	25	—
	Ambient, t_2 (°C) ..... :	Cooling mode: 32/23(IU); 54/29(OU)	—

Temperature of winding	R_1 (Ω)	R_2 (Ω)		T (°C)		Max. T (°C)	Insulation class
		Cooling	Heating	Cooling	Heating		
Main winding of indoor fan motor FN35A-PG_KAIBANG	131,6	152,7	—	66,6	—	115	E
Aux. winding of indoor fan motor FN35A-PG_KAIBANG	142,3	165,1	—	66,6	—	115	E
Main winding of outdoor fan motor LW60J_ Nan-Feng	88,3	100,2	—	60,0	—	120	B
Aux. winding of outdoor fan motor LW60J_ Nan-Feng	110,8	125,8	—	60,1	—	120	B
Main winding of outdoor fan motor LW60J_ Broad-Ocean	104,6	120,5	—	64,4	—	120	B
Aux. winding of outdoor fan motor LW60J_ Broad-Ocean	135,1	155,6	—	64,4	—	120	B
Main winding of outdoor fan motor LW60J_Kaibang	88,4	99,7	—	58,2	—	120	B
Aux. winding of outdoor fan motor LW60J_Kaibang	94,5	106,6	—	58,2	—	120	B

Main winding of outdoor fan motor LW60J_Wolong	119,3	135,7	—	60,7	—	120	B
Aux. winding of outdoor fan motor LW60J_Wolong	151,7	172,6	—	60,8	—	120	B
Main winding of outdoor fan motor LW60J_Tongde	82,3	94,0	—	61,9	—	120	B
Aux. winding of outdoor fan motor LW60J_Tongde	121,7	139,1	—	62,1	—	120	B
Main winding of outdoor fan motor LW60J_ LT	74,9	85,2	—	60,7	—	120	B
Aux. winding of outdoor fan motor LW60J_ LT	103,8	118,0	—	60,5	—	120	B
Main winding of compressor QXAH-F232F450	1,38	1,8	—	104,0	—	140	Synthetic
Aux. winding of compressor QXAH-F232F450	1,70	2,2	—	101,3	—	140	Synthetic

11.8-4	**TABLE: Heating test, thermocouples for VDMA-CTT024T03A with all alternative indoor fan motors (FN35A-PG_Broad-Ocean, FN35A-PG_WOLONG and FN35A-PG_Tongde).**			P
	Test voltage (V)	1,06x240V=254,4V		—
	Ambient, t_1 (°C)	Cooling mode: 32/23(IU); 54/29(OU)		—
	Ambient, t_2 (°C)			—

Thermocouple locations	T (°C)		Max. T (°C)
	Cooling	Heating	
Indoor unit			
Power cord	39,3	—	75
Terminal block	31,7	—	85
Transformer	36,2	—	105
Swing motor	39,6	—	For reference
PCB	33,0	—	145
Varistor	33,5	—	T85
Relay	32,6	—	T70
Enclosure of fan motor (FN35A-PG_Broad-Ocean)	51,9	—	For reference
Enclosure of fan motor (FN35A-PG_Tongde)	52,1	—	For reference
Enclosure of fan motor (FN35A-PG_Wolong)	50,8	—	For reference
Remark: tested with all alternative fan motors and recorded the maximum value.			

11.8-4	**TABLE: Heating test, resistance**		P
	Test voltage (V).....:	1,06x240V=254,4V	—
	Ambient, t_1 (°C).....:	25	—

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	Ambient, t_2 (°C).....:	Cooling mode: 32/23(IU); 54/29(OU)	—

Temperature of winding	R_1 (Ω)	R_2 (Ω)		T (°C)		Max. T (°C)	Insulation class
		Cooling	Heating	Cooling	Heating		
Main winding of indoor fan motor FN35A-PG_Broad-Ocean	208	240,62	—	65,7	—	115	E
Aux. winding of indoor fan motor FN35A-PG_Broad-Ocean	180	207,19	—	64,2	—	115	E
Main winding of indoor fan motor FN35A-PG_Wolong	120	139,28	—	66,7	—	115	E
Aux. winding of indoor fan motor FN35A-PG_Wolong	130	149,14	—	63,2	—	115	E
Main winding of indoor fan motor FN35A-PG_Tongde	100	115,49	—	65,2	—	115	E
Aux. winding of indoor fan motor FN35A-PG_Tongde	125	143,16	—	62,7	—	115	E

11.8-5	**TABLE: Heating test, thermocouples for VDMA-CTT024T03A with alternative compressor QXA-E232H050**		P
	Test voltage (V)	1,06x240V=254,4V	—
	Ambient, t_1 (°C)	Cooling mode: 32/23(IU); 54/29(OU)	—
	Ambient, t_2 (°C)		—

Thermocouple locations	T (°C)		Max. T (°C)
	Cooling	Heating	
Indoor unit			
Power cord	37,5	—	75
Fan motor	73,7	—	For reference
Swing motor	37,5	—	For reference
Capacitor of fan motor	40,7	—	T70
Terminal block	33,6	—	85
X2 Capacitor	38,4	—	T100
Relay	36,8	—	T70
PCB	33,1	—	145
Outdoor unit			
Surface of compressor	91,4	—	For reference
Lead wire of compressor	56,4	—	75
Capacitor of compressor	53,2	—	T70
Surface of fan motor	78,4	—	For reference
Capacitor of fan motor	53,2	—	T70
Terminal block	51,5	—	85

Test corner	57,5	—	90
Remark: Tested with all alternative fan motors and recorded the maximum value.			

11.8-5	**TABLE: Heating test, resistance**		P
	Test voltage (V) .....:	1,06x240V=254,4V	—
	Ambient, t_1 (°C) .....:	25	—
	Ambient, t_2 (°C) .....:	Cooling mode: 32/23(IU); 54/29(OU)	—

Temperature of winding	R_1 (Ω)	R_2 (Ω)		T (°C)		Max. T (°C)	Insulation class
		Cooling	Heating	Cooling	Heating		
Main winding of compressor QXA-E232H050	1,61	2,10	—	104,6	—	120	B
Aux. winding of compressor QXA-E232H050	1,72	2,25	—	105,4	—	120	B

11.8-6	**TABLE: Heating test for model VDMA-CTT028T03A**		P
	Test voltage (V) ....:	1,06x240=254,4	—
	Ambient (°C) .....:	32/13(IU); 52/31(OU)	—

Thermocouple locations	Max. temperature measured, T (°C)		Max. temperature limit, T (°C)
	Cooling	Heating	
Indoor unit:			
Interconnection cord	53,0	—	75
Terminal block	35,3	—	85
Swing motor	38,1	—	For reference
Fan motor (Kaibang)	42,0	—	For reference
Fan motor (Shinano)	43,2	—	For reference
PCB	38,2	—	145
Varistor	57,4	—	T85
Cold plasma generator	36,7	—	For reference
X capacitor	71,8	—	T100
Relay	56,9	—	T70
Transformer winding	62,3	—	105 Class E
Test corner	60,5	—	90
Outdoor unit			
Supply cord	54,4	—	75
Terminal block	55,2	—	85
PCB	57,8	—	145

Relay	62,6	—	T70
AC Contactor	62,1	—	T70
Surface of compressor	82,7	—	For reference
Discharge pipe of compressor	75,2	—	For reference
Surface of fan motor	69,4	—	For reference
Capacitor for compressor	63,5	—	T70
Test floor	55,4	—	90
Supplementary information: tested with all alternative components and recorded the maximum value.			

11.8-6	**TABLE: Heating test, resistance method**		P
	Test voltage (V) :	1,06x240=254,4	—
	Ambient, t1 (°C) :	25	—
	Ambient, t2 (°C) :	32/13(IU); 52/31(OU)	—

Temperature rise of winding	R1 (Ω)	R2 (Ω)		T (°C)		Max. T (°C)	Insulation class
		Cooling	Heating	Cooling	Heating		
Main winding of compressor	1,09	1,36	—	91,3	—	140	Synthetic
Aux. winding of compressor	2,14	2,68	—	90,5	—	140	Synthetic
Supplementary information: —							

11.8-7	**TABLE: Heating test for model VDMA-CTT028T03A with indoor unit main board M863F1CQJ**		P
	Test voltage (V) .....:	1,06x240=254,4	—
	Ambient (°C).....:	32/13(IU); 52/31(OU)	—

Thermocouple locations	Max. temperature measured, T (°C)		Max. temperature limit, T (°C)
	Cooling	Heating	
Winding of transformer	41,88	—	110 Class B
Stepping motor	28,12	—	For reference
Varistor	45,00	—	T85
Reactor	46,84	—	For reference
Supply cord	29,73	—	75
Capacitor for compressor	37,31	—	T70
Top surface of compressor	90,26	—	For reference
Side surface of compressor	92,66	—	For reference
Terminal Board	28,88	—	85
Supplementary information: tested with all alternative components and recorded the maximum value.			

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11.8-7	TABLE: Heating test, resistance method		N/A
	Test voltage (V) :	----	—
	Ambient, t1 (°C) :	----	—
	Ambient, t2 (°C) :	----	—

Temperature rise of winding	R1 (Ω)	R2 (Ω)		T (°C)		Max. T (°C)	Insulation class
		Cooling	Heating	Cooling	Heating		
----	----	----	----	----	----	----	----

Supplementary information: —

13.2	TABLE: Leakage current		P
	Heating appliances: 1,15 x rated input (W).....:	N/A	—
	Motor-operated and combined appliances: 1,06 x rated voltage (V).....:	254,4V	—

Leakage current between	I (mA)	Max. allowed I (mA)
VDMA-CTT012T03		
Live parts and accessible earthed metal parts	Max: 0,896	3,5
Live parts and plastic enclosure	Max: 0,059	0,35 (peak)
VDMA-CTT018T03		
Live parts and accessible earthed metal parts	Max. 0,76	3,5
Live parts and plastic enclosure	Max. 0,069	0,35 (peak)
VDMA-CTT024T03A		
Live parts and accessible earthed metal part	Max. 0,75	3,5
Live parts and plastic enclosure	Max. 0,047	0,35(peak)
VDMA-CTT028T03A		
Live parts and accessible earthed metal part	Max. 0,650	3,5
Live parts and plastic enclosure	Max. 0,085	0,35(peak)
Supplementary information: All alternative components have been tested, the severest test result listed.		

13.3	TABLE: Dielectric strength	P

Test voltage applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)
Parts isolated with basic insulation	1000	No
Parts isolated with supplementary insulation	1750	No
Part isolated with reinforced insulation	3000	No
Supplementary information: All alternative components have been tested.		

14	TABLE: Transient overvoltages	N/A

Clearance between:	Cl (mm)	Required Cl (mm)	Rated impulse voltage (V)	Impulse test voltage (V)	Flashover (Yes/No)
----	----	----	----	----	----
Supplementary information:					

16.2	TABLE: Leakage current		P
	Single phase appliances: 1,06 x rated voltage (V):	254,4V	—
	Three phase appliances 1,06 x rated voltage divided by √3 (V) .....:	N/A	—

Leakage current between	I (mA)	Max. allowed I (mA)
VDMA-CTT012T03		
Live parts and accessible earthed metal part	Max.: 0,915	3,5
Live parts and plastic enclosure	Max.: 0,081	0,25
VDMA-CTT018T03		
Live parts and accessible earthed metal part	Max: 0,87	3,5
Live parts and plastic enclosure	Max: 0,086	0,25
VDMA-CTT024T03A		
Live parts and accessible earthed metal part	Max:0,74	3,5
Live parts and plastic enclosure	Max:0,069	0,25
VDMA-CTT028T03A		
Live parts and accessible earthed metal part	Max. 0,870	3,5
Live parts and plastic enclosure	Max. 0,082	0,25
Supplementary information: All alternative components have been tested, the severest test result listed.		

16.3	TABLE: Dielectric strength	P

Test voltage applied between:	Test potential applied (V)	Breakdown / flashover (Yes/No)
Parts isolated with basic insulation	1250	No
Parts isolated with supplementary insulation	1750	No
Parts isolated with reinforced insulation	3000	No
Supplementary information: All alternative components have been tested.		

17	TABLE: Overload protection	N/A

Thermocouple locations	Max. temperature rise measured, Δ T (K)	Max. temperature rise limit, Δ T (K)
----	----	----
Supplementary information: ----		

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17	TABLE: Overload protection, resistance method		N/A
	Test voltage (V)..... :	N/A	—
	Ambient, t1 (°C) ..... :	N/A	—
	Ambient, t2 (°C) ..... :	N/A	—

Temperature of winding	R1 (Ω)	R2 (Ω)	Δ T (K)	T (°C)	Max. T (°C)
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Supplementary information: ----

19	Abnormal operation conditions	N/A

Operational characteristics	YES/NO	Operational conditions
Are there electronic circuits to control the appliance operation?	Yes	N/A
Are there “off” or “stand-by” position?	Yes	N/A
The unintended operation of the appliance results in dangerous malfunction?	NO	N/A

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	N/A	N/A	N/A	N/A	N/A	N/A
19.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.4.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.101	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.103	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Supplementary information: —

19.4	Abnormal operation conditions	P
Failure description	Effect	Verdict
Short-circuit or open-circuit components	No hazards	P
Supplementary information:		

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19.7	**Abnormal operation conditions – locked rotor test other than motor-compressors and stationary circulation pumps in compliance with IEC 60335-2-51**		P
	Ambient, t1 (°C):	25°C	—
	Ambient, t2 (°C):	25°C	—
	Test voltage (V) :	240V	—

Temperature limit T of Enclosure:	R_1 (Ω)	R_2 (Ω)	Measured T (°C)	Limit T (°C)	Insulation class
Indoor Fan motor FN35A-PG_Kaibang	—	—	108,2	150	—
Indoor Fan motor FN20N-PG_Kaibang	—	—	148,0	150	—
Indoor Fan motor FN20N-PG_Tongde	—	—	118	150	—
Indoor fan motor FN20V-PG_KAIBANG	—	—	87,8	150	—
Indoor fan motor FN20V-PG_Wolong	—	—	113,1	150	—
Indoor fan motor FN20V-PG_Tongde	—	—	110,3	150	—
Outdoor fan motor FW25K-1_Kaibang	—	—	94,7	150	—
Outdoor fan motor FW25K-1_Nan-Feng	—	—	86,2	150	—
Outdoor fan motor FW25K-1_Broad-Ocean	—	—	102,54	150	—
Outdoor fan motor FW25K-1_Tongde	—	—	99,6	150	—
Outdoor fan motor FW25K-1_LT	—	—	104,7	150	—
Outdoor Fan motor LW60J_ Nan-Feng	—	—	87,3	150	—
Outdoor Fan motor LW60J_ Broad-Ocean	—	—	98,3	150	—
Outdoor Fan motor LW60J_ Kaibang	—	—	95,4	150	—
Outdoor Fan motor LW60J_ Wolong	—	—	80,1	150	—
Outdoor Fan motor LW60J_ Tongde	—	—	95,5	150	—
Outdoor Fan motor LW60J_ LT	—	—	87,8	150	—
Indoor fan motor FN35A-PG_Broad-Ocean	—	—	103,5	150	—
Indoor fan motor FN35A-PG_Wolong	—	—	109,5	150	—
Indoor fan motor FN35A-PG_Tongde	—	—	101,1	150	—
Indoor fan motor Kaibang (FN60B-ZL)	—	—	27,5	150	—
Indoor fan motor Shinano (FN60B-ZL)	—	—	106,8	150	—
Outdoor fan motor Kaibang (LW92K-ZL)	—	—	86,4	150	—
Temperature limit T of Enclosure:	R_1 (Ω)	R_2 (Ω)	Measured T (°C)	Limit T (°C)	Insulation class
Indoor Fan motor FN35A-PG_Kaibang	—	—	119,4	215	E
Indoor Fan motor FN20N-PG_Kaibang	—	—	165,4	215	E
Indoor Fan motor FN20N-PG_Tongde	—	—	146	215	E
Indoor fan motor FN20V-PG_KAIBANG	—	—	122,3	215	E
Indoor fan motor FN20V-PG_Wolong	—	—	130,8	215	E

Indoor fan motor FN20V-PG_Tongde	—	—	125,0	215	E
Outdoor fan motor FW25K-1_Kaibang	—	—	118,4	225	B
Outdoor fan motor FW25K-1_Nan-Feng	—	—	94,3	225	B
Outdoor fan motor FW25K-1_Broad-Ocean	—	—	154,79	225	B
Outdoor fan motor FW25K-1_Tongde	—	—	121,4	225	B
Outdoor fan motor FW25K-1_LT	—	—	149,0	225	B
Outdoor Fan motor LW60J_ Nan-Feng	—	—	117,1	225	B
Outdoor Fan motor LW60J_ Broad-Ocean	—	—	111,7	225	B
Outdoor Fan motor LW60J_ Kaibang	—	—	114,3	225	B
Outdoor Fan motor LW60J_ Wolong	—	—	103,3	225	B
Outdoor Fan motor LW60J_ Tongde	—	—	110,5	225	B
Outdoor Fan motor LW60J_ LT	—	—	103,5	225	B
Indoor fan motor FN35A-PG_Broad-Ocean	—	—	118,2	215	E
Indoor fan motor FN35A-PG_Wolong	—	—	119,5	215	E
Indoor fan motor FN35A-PG_Tongde	—	—	110,3	215	E
Indoor fan motor Kaibang (FN60B-ZL)	—	—	27,8	215	E
Indoor fan motor Shinano (FN60B-ZL)	—	—	116,8	215	E
Outdoor fan motor Kaibang (LW92K-ZL)	—	—	127,0	215	E

19.7	**TABLE: electric strength measurements after 72 hours**	P
Test voltage applied between:	Test voltage (V)	Breakdown Yes / No
Winding and metal enclosure(for all motors)	1250	No

19.7	**TABLE: leakage current measurements after 72 hours**		P
	A voltage equal to twice the rated voltage (V) :	240	—
Leakage current I between :		I (mA)	Required I (mA)
Indoor Fan motor FN35A-PG_Kaibang		0,029	2
Indoor Fan motor FN20N-PG_Kaibang		0,065	2
Indoor Fan motor FN20N-PG_Tongde		0,119	2
Indoor fan motor FN20V-PG_KAIBANG		0,420	2
Indoor fan motor FN20V-PG_Wolong		0,037	2
Indoor fan motor FN20V-PG_Tongde		0,040	2
Outdoor fan motor FW25K-1_Kaibang		0,060	2
Outdoor fan motor FW25K-1_Nan-Feng		0,059	2
Outdoor fan motor FW25K-1_Broad-Ocean		0,056	2
Outdoor fan motor FW25K-1_Tongde		0,045	2

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Outdoor fan motor FW25K-1_LT	0,061	2
Outdoor Fan motor LW60J_ Nan-Feng	0,040	2
Outdoor Fan motor LW60J_ Broad-Ocean	0,039	2
Outdoor Fan motor LW60J_ Kaibang	0,035	2
Outdoor Fan motor LW60J_ Wolong	0,033	2
Outdoor Fan motor LW60J_ Tongde	0,037	2
Outdoor Fan motor LW60J_ LT	0,036	2
Indoor fan motor FN35A-PG_Broad-Ocean	0,030	2
Indoor fan motor FN35A-PG_Wolong	0,033	2
Indoor fan motor FN35A-PG_Tongde	0,028	2
Indoor fan motor Kaibang (FN60B-ZL)	0,050	2
Indoor fan motor Shinano (FN60B-ZL)	0,045	2
Outdoor fan motor Kaibang (LW92K-ZL)	0,051	2

19.7-1	**Abnormal operation conditions – Locked rotor test motor-compressor**	P
	Motor-compressor..... :	QXAH-C122E030
	Start device ..... :	----
	Protector..... :	UP3-A2
	Start capacitor ..... :	----
	Run capacitor ..... :	35μF
	Cooling; (static); (fan-m^3/h); (oil); ..... :	----
	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)	----	----	0,682	<1,0	----
Electric strength (see 13.3)	----	----	P	----	----
Room temperature (°C) (20 ± 5°C)	25	----	25	25	----
Number of cycles (≥ 2000 or 50)	----	----	>4500	----	----
Housing temperature (°C) (≤ 150°C)	----	----	69	<80	----
supplementary information:					

19.7-2	**Abnormal operation conditions – Locked rotor test motor-compressor**	P
	Motor-compressor..... :	QXAH-F19F450

	Start device .....:	—
	Protector.....:	UP3-06C
	Start capacitor .....:	—
	Run capacitor .....:	50μF
	Cooling; (static); (fan-m^3/h); (oil); .....:	—
	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)	—	—	0,18	<1,0	—
Electric strength (see 13.3)	—	—	P	P	—
Room temperature (°C) (20 ± 5°C)	25	—	25	25	—
Number of cycles (≥ 2000 or 50)	—	—	4951	—	—
Housing temperature (°C) (≤ 150°C)	—	—	86,7	<100	—

19.7-3	**Abnormal operation conditions – Locked rotor test motor-compressor**	P
	Motor-compressor.....:	QXAH-F232F450
	Start device .....:	—
	Protector.....:	UP3-07
	Start capacitor .....:	—
	Run capacitor .....:	45μF
	Cooling; (static); (fan-m^3/h); (oil); .....:	—
	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	—	P	—	—
Leakage current (mA) (see 16.2)	—	—	0,09	<0,2	—
Electric strength (see 13.3)	—	—	P	P	—
Room temperature (°C) (20 ± 5°C)	25	—	25	25	—
Number of cycles (≥ 2000 or 50)	—	—	9905	—	—
Housing temperature (°C) (≤ 150°C)	—	—	89,8	<100°C	—

19.7-4	Abnormal operation conditions – Locked rotor test motor-compressor	P
	Motor-compressor.....:	QXA-E232H050
	Start device .....:	—
	Protector.....:	UP3-09
	Start capacitor .....:	—
	Run capacitor .....:	60µF
	Cooling; (static); (fan-m^3/h); (oil); .....:	Synthetic
	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)	—	—	0,192	<0,2	—
Electric strength (see 13.3)	—	—	P	P	—
Room temperature (°C) (20 ± 5°C)	25	—	25	25	—
Number of cycles (≥ 2000 or 50)	—	—	9909	—	—
Housing temperature (°C) (≤ 150°C)	—	—	73,3	<100°C	—

19.11.2	Abnormal Operation			P
Fault condition	Short circuit	Open circuit	Effect	Verdict
According to a) to g) of clause 19.11.2	X	X	1. The appliance cannot work normally. 2. The current fuse in the bus of circuit operated. Above two phenomenons occurred. No hazard during and after all tests.	Pass

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	Maximum: 60,7	175
Test corner	Maximum: 62,2	175
Supplementary information: All alternative components have been tested, the severest test result listed.		

19.101-104	Abnormal operation conditions	P
Subclause	Effect	Verdict
19.101	No hazards	P

19.102	—	N/A
19.103	No hazards	P
19.104	—	N/A
Supplementary information:		

21.1	**TABLE: Impact resistance**		P
Impacts per surface	Surface tested	Impact energy (Nm)	Comments
3	Plastic enclosure	0,5	Pass
Supplementary information: ----			

24.1-1	**TABLE: Critical components information for VDMA-CTT012T03, RDMA-CTT012T03**				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
Stepping motor 1#	Jiangsu Leili Motor Corporation Limited	MP24EB	DC 12V; Class A; Main: 200±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd	MP24EB	DC 12V; Class A; Main: 200±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Stepping motor 2#	Jiangsu Leili Motor Corporation Limited	MP24BA	12VDC; Class A; 200±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Jiangsu Huayang Electrical Appliance Co., Ltd	MP24BA	12VDC; Class A; 200±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd	MP24BA	12VDC; Class A; 200±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Guangdong hlp Intelligent Technology Co., Ltd	MP24BA	DC12V; 200Ω±7%; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhongshan Huilipu Motor Manufacturing CO., LTD. (Hefei Huilipu Motor Co., Ltd.)	MP24BA	DC12V; 200Ω±7%; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd.	MP24HF	12V; Class A; Main:200±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Main Board	GREE	M554F1BQJ	/	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	GREE	M554F1BTJ	/	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Alternative	GREE	M560F1KJ	/	IEC 60335-1 IEC 60335-2-40	Tested with appliance
-Y2 Capacitor	TDK Corporation	CS102M	250VAC; 102M	IEC/EN 60384-14	VDE 40029781
-Alternative	Murata Mfg. Co., Ltd.	KY102M	250VAC; 102M	IEC/EN 60384-14	VDE 40006273
-Alternative	Haohua Electronic Co.	CT7	250VAC; 102M	IEC/EN 60384-14	VDE 40013601
Indoor fan motor capacitor	Zhuhai Gree Xinyuan Electronic Co., LTD	CBB61	1,5µF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50331646
Alternative	Xiamen Faratronic Co., Ltd.	C6G	1,5µF; 450V; T85; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50266163
Alternative	Ningbo Shine Electrical Co., Ltd.	CBB61S	1,5µF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50076953
Alternative	Shanghai Haoye Electric Co., Ltd.	MKPS	1,5µF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50035566
Alternative	Shanghai Haoye Electric Co., Ltd.	MKP-1	1,5µF; 450V; T85; P2/S3	IEC/EN 60252-1	VDE 40023685
Alternative	Guangdong Fengming Electronic Tech. Co., Ltd.	CBB61	1,5µF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50274996
X2 capacitor	Xiamen Faratronic Co. Ltd.	MKP62	104M; 275V; T110	IEC/EN 60384-14	VDE 40000358
Alternative	Anhui Xinyang Electronics Co., Ltd.	MKP	0,1µF; 275V; T100	IEC/EN 60384-14	VDE 40024537
Varistor	Chengdu Tieda Electronic Co., Ltd.	MYN15-621K	385V(r.m.s)AC; T85	CECC 42000 CECC 42200 CECC 42201 IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008571
Alternative	Fenghua Adv. Tech. (Holding) Co., Ltd.	FNR-14K621	385V(r.m.s)AC; T85	CECC 42000 CECC 42200 CECC 42201 IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008242
Opto-coupler	Sharp Corporation Electronic Components and Devices Division	PC817	Vceo:80V; If:50mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40008087
Alternative	Avago Technologies Manufacturing	HCPL-817	Vceo:70V; If:50mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40016429

Alternative	Sharp Corporation	3SD11	Vdrm:600V; If:50mA; It:0,1A	IEC/EN 60747-5-2	VDE 40008189
Alternative	Everight electronics co., LTD	EL3053	If:0-60mA; Itsm:1A; Vceo:600V; Topr:-55~110°C	IEC/EN 60747-5-5	VDE 132249
High Frequency Transformer	DONGGUAN DAZHONG ELECTRONIC CO., LTD	EE22-9D	85-265V; 132kHz; 12V; (4-1)3,0Ω MAX; (6-7)118mΩ MAX; (10-9)70mΩ MAX; 2,2mH±10%; 30uH MAX; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	HUIZHOU JIAYANG ELECTRONIC NEW-TECH CO., LTD	EE22-9D	85-265V; 12V; 132kHz; PIN4-1=3,0Ω MAX; PIN6-7=118mΩ MAX; PIN10-9=70mΩ MAX; 100KHZ/1V; PIN4-1=2,2mH±10%; 100kHz; 1V; PIN4-1=30uH MAX; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Inductance	Qingdao Yunlu energy technology Co., Ltd.	260uH/2A	260uH; 2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	SHENZHEN YAMAXI ELECTRONICS CO., LTD	260uH/2A	260uH; 2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	HUIZHOU JIAYANG ELECTRONIC NEW-TECH CO., LTD	260uH/2A	260uH; 2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Hangzhou Ruichaung Idustry&Trade Co., Ltd.	260uH/2A	260uH; 2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Filter	XINJI ELECTRONICS COMPONENT (HANGZHOU) CO. LTD	SF2022A-05220	AC250V; 0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Qingdao Yunlu energy technology Co., Ltd.	LB0522	AC250V; 0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	SHENZHEN YAMAXI ELECTRONIC CO. LTD	SF2022A-05220	AC250V; 0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Alternative	DAZHONG ELECTRONIC CO. LTD	SF2022A-05220	AC250V; 0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Relay 1#	Xiamen Hongfa Electroacoustics Co., Ltd.	JQX-102F	250VAC; 20A; T85	IEC/EN 61810-1	VDE 40024142
Alternative	OMRON Relay & Devices Corporation	G4A-1A-E-CN	250VAC; 20A; T85	IEC/EN 61810-1	TÜV Rheinland R50276140
Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SFK-112DM	250VAC; 20A; T85	IEC/EN 61810-1	VDE 40007481
Alternative	Dongguan Churod Electronics Co., Ltd.	CHF-V-112DA2	250VAC; 20A; T85	IEC/EN 61810-1	TÜV Rheinland R50220099
Alternative	Song Chuan Precision Co., Ltd.	891WP-1A-C	250VAC; 25A; T85	IEC/EN 60255 IEC/EN 61810-1 IEC/EN 61810-5	TÜV Rheinland R50003966
Relay 2#	Xiamen Hongfa Electroacoustics Co., Ltd.	JZC-32F	250VAC; 5A; T70	IEC/EN 61810-1	VDE 40012204
Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SJ-S-112DM	250VAC; 5A; T85	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40002146
Alternative	Dongguan Churod Electronics Co., Ltd.	A1-S-112DA	250VAC; 5A; T85	IEC/EN 61810-1	TÜV Rheinland R50174892
Alternative	Song Chuan Precision Co., Ltd.	307-1AH-C	250VAC; 5A; T85	IEC/EN 61810-1	TÜV Rheinland R50128391
Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	OJE-SS-112DM	250VAC; 5A; T70	IEC/EN 61810-1	TÜV Rheinland R50139166
SSR Relay	Sharp Corporation Electronic Components and Devices Group	R3BMF5	250VAC; 1,2A; T85	IEC/EN 60747-5-2	VDE 40008898
Alternative	Panasonic Corporation Ise Factory	AQH3223	250VAC; 1,2A; T85	IEC/EN 60950	VDE 40004928
Fuse	Hollyland Company Limited	50CT	250V; 3,15A	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40014896
Alternative	Walter Electronic Co. Ltd.	TSC	250V; 3,15A	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40016670
Rectifier	SHINDENGEN ELECTRIC MFG CO LTD	NC 80	600V; 1,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance

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Terminal Board	CHANGZHOU KAIDU ELECTRICAL CO., LTD.	JX-G-3C	AC 250V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1	VDE 40020936
Alternative	Nantong Huaguan Electric Co. Ltd.	JXW-3-G3	250V~; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1 IEC/EN 61210	VDE 40013197
Alternative	Changzhou Kaidu Electrical Co., Ltd.	JX-G-4C	AC250V; 2,5mm^2	IEC/EN 60998-1 IEC/EN 60998-2 IEC 60335-2-40	Tested with appliance & VDE 40020936
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	JX1239	250V; 2,5mm^2	IEC 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co., Ltd.	JXW-4-G1	AC250V; 2,5mm^2	IEC 60335-2-40 IEC/EN 60998-1 IEC/EN 60998-2	Tested with appliance & VDE 40013197
Alternative	Nantong Huaguan Electric Co., Ltd.	JXW-3-C	AC600V; 2,5mm²	IEC 60335-2-40 IEC/EN 60998-1 IEC/EN 60998-2	Tested with appliance & VDE 40013197
Cold Plasma Generator	Shandong Xuesheng Technology Co., Ltd.	XS-PL-06	220-240VAC; 50/60Hz; ≤2W	IEC/EN 60335-1 IEC/EN 60335-2-65	TÜV Rheinland R 50172899
Indoor Fan Motor	Zhuhai Kaibang Motor Manufacturing CO., LTD.	FN20N-PG	220-240V; 50Hz; 20W; 0,24A; Main:350,2±8%Ω; Aux: 463,1±8%Ω; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai city Tongde electric equipment co., ltd	FN20N-PG	220-240V; 50Hz; 20W; 0,25A; Main:268,0±8%Ω; Aux:424,0±8%Ω; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai Kaibang Motor Manufacturing CO., LTD.	FN20V-PG	220-240V; 50Hz; 20W; 0,31A; Main:210±8%Ω; Aux:360±8%Ω; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhejiang Wolong Home Appliance Motor Co., Ltd	FN20V-PG	220-240V; 50Hz; 20W; 0,270A; Class E; Main:176±8%Ω; Aux:253±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai city Tongde electric equipment co., ltd	FN20V-PG	220-240V; 50Hz;20W; 0,27A; Class E; Main:226,8±8%Ω; Aux:338,4±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance

-Thermal protector of fan motor	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-B5D	250V; 5A; Operation: 100°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015984
Alternative	Changzhou Changhong Tongli Electric Appliance Co. Ltd.	KW Series	250V; 8A; Operation: 100°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40020906
Alternative	Sensata Technologies Holland. B.V.	BRL Series	250V; 8A; Operation: 100°C	IEC/EN 60730-1 IEC/EN 60730-2-2	KEMA 2089558.01
Power Cord	Guangdong Huasheng Electrical Appliances Co., Ltd.	H05VV-F	3G1,0mm²	DIN VDE 0282-1 HD 21.5 S3 IEC 60227	VDE 40005362
Alternative	Changzhou Hongchang Electronics Co., Ltd.	H05VV-F	3G1,0mm²	DIN VDE 0281-5 IEC 60227	VDE 124978
Interconnection cord	Guangdong Huasheng Electrical Appliances Co., Ltd.	H05RN-F	3G1,0mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40016788
Alternative	EASTWIRE INDUSTRIAL LIMITED	H05RN-F	3G1,0mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40016464
Alternative	Guangdong Rifeng Electrical Cable Co., Ltd.	H05RN-F	3G1,0mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40015999
Alternative	Guangdong KaiHua Electrical Appliances Co., Ltd	H05RN-F	3G1,0mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40015132
Compressor and Fittings	ZHUHAI LANDA COMPRESSOR CO., LTD.	QXAH-C122E030	220-240V; 50Hz; 1015W; 2,69±5%; 2,73±5%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
-Compressor Overload Protector (Internal)	Ubukata Industries Co., Ltd.	UP3-A2	Operation:140±5°C; Reset: 90±10°C	IEC/EN 60730-1 IEC/EN 60730-2-4	VDE 136742
Compressor capacitor	Zhuhai Gree Xinyuan Electronic Co., LTD	CBB65	35µF; 450VAC; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50127276
Alternative	Ningbo Shine Electrical Co., Ltd.	CBB65A	35µF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50199650
Alternative	Ningbo Shine Electrical Co. Ltd.	CBB65A-1	35µF; 450V; T70; P2/S3	IEC/EN 60252-1	VDE 40031628

Alternative	Anhui Feida Industry Stock Co., Ltd.	CBB65A-1	35μF; 450VAC; T85; P2/S3	IEC/EN 60252-1	VDE 40019572
Outdoor fan motor capacitor	Xiamen Faratronic Co., Ltd.	C6G	2,5μF; 450V; T85; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50266163
Alternative	Ningbo Shine Electrical Co., Ltd.	CBB61S	2,5μF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50076953
Alternative	Shanghai Haoye Electric Co., Ltd.	MKPS	2,5μF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50035566
Alternative	Shanghai Haoye Electric Co., Ltd.	MKP-1	2,5μF; 450V; T85; P2/S3	IEC/EN 60252-1	VDE 40023685
Alternative	Guangdong Fengming Electronic Tech. Co., Ltd.	CBB61	2,5μF; 450VAC; T7; P2/S30	IEC/EN 60252-1	TÜV Rheinland R50274996
Terminal Board	CHANGZHOU KAIDU ELECTRICAL CO., LTD.	JX-2.1	AC300V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1	VDE 40020936
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	JX031	300V; 2,5mm²	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co. Ltd.	JXW-2-A	AC300V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1 IEC/EN 61210	VDE 40013197
Alternative	Changzhou Kaidu Electrical Co Ltd	JX-G-5H	500V; 4mm^2	IEC 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co., Ltd.	JXW	AC500V; 4mm^2; 32A	IEC 60335-2-40	Tested with appliance
Outdoor Fan Motor	Zhongshan Nan-Feng Electrical Machinery Co., Ltd.	FW25K-1	220-240V; 50Hz; 30W; 0,29A; Main:240,3±8%Ω; Aux:155,0±8%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhongshan Broad-Ocean Motor CO., LTD.	FW25K-1	220-240V; 50Hz; 30W; 0,28A; Main:262,0±8%Ω; Aux:182,8±8%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai Kaibang Motor Manufacturing CO., LTD.	FW25K-1	220-240V; 50Hz; 30W; 0,29A; Main:263,5±8%Ω; Aux:174,8±8%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Alternative	Zhuhai city Tongde electric equipment co., ltd	FW25K-1	220-240V; 50Hz; 30W; 0,29A; Main:255±8%Ω; Aux:179±8%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Jiangmen LT Motor Co., Ltd	FW25K-1	220-240V; 50Hz; 30W; 0,29A; Main:252±8%Ω; Aux:185±8%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhongshan Nan-Feng Electrical Machinery Co., Ltd.	FW25K-2	220-240V; 50Hz; 30W; 0,29A; Main:240,3±8%Ω; Aux:155,0±8%Ω; Class F	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai Kaibang Motor Manufacturing CO., LTD.	FW25K-2	220-240V; 50Hz; 30W; 0,29A; Main:263,5±8%Ω; Aux:174,8±8%Ω; Class F	IEC 60335-1 IEC 60335-2-40	Tested with appliance
-Overheat protector of fan motor	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-A Series	250V; 5A; Operation: 135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015893
-Alternative	Jiangsu Changsheng Electric Appliance Co. Ltd.	17AM-D Series	250V; 8A; Operation:135±5°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40016509
-Alternative	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-A2D Series	250V; 6A / 125V; 10A Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015893
-Alternative	Changzhou Changhong Tongli Electric Appliance Co. Ltd.	KW Series	250V; 6A; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40020906
-Alternative	Zhejiang Dongyang Hengdian Thermal Protector Factory	KSD-II Series	250V; 5A; Operation: 135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 139430
Alternative	Texas Instruments Holland B.V.	17AM Series	250V; 10A; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2 IEC/EN 60730-2-3 IEC/EN 60730-2-9	KEMA 2014531.05
Alternative	Sensata Technologies Holland, B.V.	BW Series	250V; 6A; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	KEMA 2094754.01
Alternative	Jiangsu Changsheng Electric Appliance Co., Ltd	BR-A-135°C	AC250V; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40040873

Alternative	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-A Series	250V; 5A; Operation:130°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015893
Alternative	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-A2D Series	250V; 6A / 125V; 10A; Operation:130°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015893
Alternative	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR Series	250V; 6A; Operation:130°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 132813
Alternative	Changzhou Changhong Tongli Electric Appliance Co. Ltd.	KW Series	250V; 6A; Operation:130°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40020906
Alternative	Guangzhou De Wan Electrical Equipment Co. Ltd	T11 Series	250V; 2,5A; Operation:130°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40001200
Alternative	Texas Instruments Holland B.V.	17AM Series	250V; 10A; Operation:130°C	IEC/EN 60730-1 IEC/EN 60730-2-2 IEC/EN 60730-2-3 IEC/EN 60730-2-9	KEMA 2014531.05
Supplementary information: [1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

24.1-2	**TABLE: Critical components information for VDMA-CTT018T03, RDMA-CTT018T03**				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
Stepping Motor 1#	Jiangsu Leili Motor Corporation Limited	MP24HF	DC12V; Main:150±7%Ω; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd	MP24HF	12V; Class A; Main:200±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Stepping Motor 2#	Jiangsu Leili Motor Corporation Limited	MP35CJ	Main:130±8%Ω; 12V; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd	MP35CJ	Main:150±8%Ω; 12V; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Main Board	GREE	M554F1BMJ	/	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Main Board	GREE	M554F1ALJ	/	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Y2 Capacitor	TDK Corporation	CS102M	250VAC; 102M	IEC/EN 60384-14	VDE 40029781

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
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Alternative	Murata Mfg. Co., Ltd.	KY102M	250VAC;102M	IEC/EN 60384-14	VDE 40006273
Indoor fan motor capacitor	Ningbo Shine Electrical Co., Ltd.	CBB61S	3μF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R 50076953
Alternative	Shanghai Haoye Electric Co., Ltd.	MKPS	3μF/450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R 50035566
Alternative	Shanghai Haoye Electric Co., Ltd.	MKP-1	3μF; 450V; T85; P2/S3	IEC/EN 60252-1	VDE 40023685
X capacitor	Xiamen Faratronic Co. Ltd.	MKP62	104M/275V; T110	IEC/EN 60384-14	VDE 40000358
Alternative	Anhui Xinyang Electronics Co., Ltd.	MKP	0,1μF/275V; T100	IEC/EN 60384-14	VDE 40024537
Varistor	Chengdu Tieda Electronic Co., Ltd.	MYN15-621K	385V(r,m,s)AC; T85	CECC 42000 CECC 42200 CECC 42201 IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008571
Alternative	Fenghua Adv. Tech. (Holding) Co., Ltd.	FNR-14K621	385V(r,m,s)AC; T85	CECC 42000 CECC 42200 CECC 42201 IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008242
Opto-coupler 1#	Sharp Corporation Electronic Components and Devices Division	PC817	Vceo: 80V; If: 50mA; Ic: 50mA	IEC/EN 60747-5-2	VDE 40008087
Alternative	Sharp Corporation Electronic Components and Devices Division	PC817	Vceo: 80V;If: 50mA;Ic: 50mA	IEC/EN 60747-5-2	VDE 40008087
Alternative	Avago Technologies Manufacturing	HCPL-817	Vceo: 70V; If: 50mA; Ic: 50mA	IEC/EN 60747-5-2	VDE 40016429
Opto-coupler 2#	Sharp Corporation	3SD11	Vdrm: 600V; If: 50mA; It: 0,1A	IEC/EN 60747-5-2	VDE 40008189
High Frequency Transformer	DONGGUAN DAZHONG ELECTRONIC CO., LTD	EE22-9D	85-265V; 132KHz; 12V; (4-1)3,0Ω MAX,(6-7)118mΩ MAX; (10-9)70mΩ MAX; 2,2mH±10%; 30uH MAX; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Inductance	Qingdao Yunlu energy technology Co., Ltd.	260uH/2A	260uH/2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Alternative	SHENZHEN YAMAXI ELECTRONICS CO., LTD	260uH/2A	260uH/2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	HUIZHOU JIAYANG ELECTRONIC NEW-TECH CO., LTD	260uH/2A	260uH;2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Filter	XINJI ELECTRONICS COMPONENT(HANGZHOU) CO.LTD	SF2022A-05220	AC250V/0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Qingdao Yunlu energy technology Co., Ltd.	LB0522	AC250V/0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	SHENZHEN YAMAXI ELECTRONIC CO.LTD	SF2022A-05220	AC250V/0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	DAZHONG ELECTRONIC CO.LTD	SF2022A-05220	AC250V/0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Relay 1#	Xiamen Hongfa Electroacoustics Co., Ltd.	JZC-32F	250VAC; 5A; T70	IEC/EN 61810-1	VDE 40012204
Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SJ-S-112DM	250VAC; 5A; T85	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40002146
Alternative	Dongguan Churod Electronics Co., Ltd.	A1-S-112DA	250VAC; 5A; T85	IEC/EN 61810-1	TÜV Rheinland R 50174892
Alternative	Song Chuan Precision Co., Ltd.	307-1AH-C	250VAC; 5A; T85	IEC/EN 61810-1	TÜV Rheinland R 50128391
Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	OJE-SS-112DM	250VAC; 5A; T70	IEC/EN 61810-1	TÜV Rheinland R 50139166
SSR Relay	Sharp Corporation Electronic Components and Devices Group	R3BMF5	250VAC; 1,2A; T85	IEC/EN 60747-5-2	VDE 40008898
Alternative	Panasonic Corporation Ise Factory	AQH3223	250VAC; 1,2A; T85	IEC/EN 60950	VDE 40004928
Fuse	Hollyland Company Limited	50CT	250V;3,15A	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40014896

Alternative	Walter Electronic Co. Ltd.	TSC	250V;3,15A	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40016670
Rectifier	SHINDENGEN ELECTRIC MFG CO LTD	NC 80	600V;1,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Terminal Block (4 bits)	CHANGZHOU KAIDU ELECTRICAL CO.,LTD.	JX-G-4C	AC250V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1	VDE 40020936
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	JX1239	250V; 2,5mm²	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co. Ltd.	JXW-4-G1	AC250V;2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1 IEC/EN 61210	VDE 40013197
Cold Plasma Generator (optional)	Shandong Xuesheng Technology Co., Ltd.	XS-PL-06	220-240VAC;50/60Hz;≤ 2W	IEC/EN 60335-1 IEC/EN 60335-2-65	TÜV Rheinland R 50172899
Indoor Fan Motor	Zhuhai Kaibang Motor Manufacturing CO., LTD.	FN35A-PG	220-240V; 50Hz; 35W; 0,35A; Main:125±8%Ω; Aux:147,7±8%Ω; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
-Thermal protector of fan motor	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-B5D	250V; 5A; Operation: 100°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015984
-Alternative	Changzhou Changhong Tongli Electric Appliance Co. Ltd.	KW Series	250V; 8A; Operation: 100°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40020906
-Alternative	Sensata Technologies Holland, B.V.	BRL Series	250V; 8A; Operation: 100°C	IEC/EN 60730-1 IEC/EN 60730-2-2	KEMA 2089558.01
Power Cord	Guangdong Huasheng Electrical Appliances Co., Ltd.	H05VV-F	3G2,5mm²	DIN VDE 0282-1 HD 21.5 S3	VDE 40005362
Interconnection cord	Guangdong Huasheng Electrical Appliances Co., Ltd.	H07RN-F	4G2,5mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40016788
Alternative	EASTWIRE INDUSTRIAL LIMITED	H07RN-F	4G2,5mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40016464

Alternative	Guangdong Rifeng Electrical Cable Co., Ltd.	H07RN-F	4G2,5mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40015999
Compressor and Fittings	ZHUHAI LANDA COMPRESSOR CO., LTD.	QXAH-F19F450	220-240V; 50Hz; 1540W; 2,05±5%Ω; 1,87±5%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
-Compressor Overload Protector(Internal)	Ubukata Industries Co., Ltd.	UP3-06C	220-240V; Open: 145±5°C; Close: 90±10°C	IEC/EN 60730-1 IEC/EN 60730-2-4	VDE 136742
Pressure Protect Switch	Changzhou Match-well Pressure Control Technique Co., Ltd.	YK-4.4/3.8	250V; 3A	IEC/EN 60730-1 IEC/EN 60730-2-6	VDE 40000571
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	YK-4.4/3.8	250V; 6A	IEC/EN 60730-1 IEC/EN 60730-2-6	TÜV Rheinland J 50302525
Alternative	Nantong Huaguan Electric Co. Ltd.	SP-H	250V; 3A	IEC/EN 60730-1 IEC/EN 60730-2-6	VDE 40043185
Compressor Capacitor	Zhuhai Gree Xinyuan Electronic Co., LTD	CBB65	50µF; 450VAC; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R 50127276
Outdoor fan motor capacitor	Xiamen Faratronic Co., Ltd.	C6G	3,5µF; 450V; T85; P2/S3	IEC/EN 60252-1	TÜV Rheinland R 50266163
Alternative	Ningbo Shine Electrical Co., Ltd.	CBB61S	3,5µF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R 50076953
Alternative	Shanghai Haoye Electric Co., Ltd.	MKPS	3,5µF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R 50035566
Alternative	Shanghai Haoye Electric Co., Ltd.	MKP-1	3,5µF; 450V; T85; P2/S3	IEC/EN 60252-1	VDE 40023685
Alternative	Guangdong Fengming Electronic Tech. Co., Ltd.	CBB61	3,5µF; 450VAC; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R 50274996
Terminal Block (3 bits)	CHANGZHOU KAIDU ELECTRICAL CO.,LTD.	JX-G-3	AC250V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1	VDE 40020936
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	JX1218	250V; 2,5mm²	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Alternative	Nantong Huaguan Electric Co. Ltd.	JXW-3-G	250VAC; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1 IEC/EN 61210	VDE 40013197
AC Contactor	Dongguan Churod Electronics Co., Ltd.	CHAC-1220HA25	Ue: 240V; Us: 220-240V; 50/60Hz; Ie: 25A; Ic: 150A; Ith: 32A	EN 60947-4-1; IEC 60947-4-1	TÜV Rheinland R 50323842
Alternative	Guilin Machine Tools Electrical Appliance Limited Company	CJX9B-25S/D	AC-8a; Ie: 25A;Ue: 240VAC; Ith: 32A; Us: 220-240VAC (50/60Hz); Ui=690V; T70	IEC/EN 60947-4-1 IEC/EN 60947-5-1	TÜV Rheinland R 50010727
Alternative	Hartland Controls LLC(USA)	HCC-1NU01BB240C	208/240VAC; 50/60Hz; 240/277V/25A; 480V/25A; 600V/25A	EN 60947-4-1	Cert. No 1301170
Outdoor fan Motor	Zhongshan Nan-Feng Electrical Machinery Co., Ltd.	LW60J	220-240V; 0,60A; 50Hz; 60W; Class B; Main:90,1±8%Ω; Aux:112,5±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhongshan Broad-Ocean Motor CO., LTD.	LW60J	220-240V~; 50Hz; 60W/0,6A; Main: 106,5±8%Ω; Aux: 132,0±8%Ω; Class B/F	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai Kaibang Motor Manufacturing CO., LTD.	LW60J	220-240V; 50Hz; 60W; 0,58A; Class B; Main:83,7±8%Ω; Aux: 92,6±8%Ω; Class B/F	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhejiang Wolong Home Appliance Motor Co., Ltd	LW60J	220-240V; 60W; 50Hz; 0,60A; Class B; Main:116±8%Ω; Aux:145±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai city Tongde electric equipment co.,ltd	LW60J	220-240V; 0,60A; 50Hz; 60W; Class B; main:79±8%Ω; Aux:116±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Jiangmen LT Motor Co., Ltd	LW60J	220-240V; 50Hz; 60W; 0,61A; Class B; Main:78,2±8%Ω; Aux: 99,4±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
-Overheat protector of fan motor	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-A Series	250V; 5A; Operation: 135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015893

-Alternative	Jiangsu Changsheng Electric Appliance Co. Ltd.	17AM-D Series	250V; 8A; Operation: 135±5°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40016509
-Alternative	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-A2D Series	250V 6A/125V 10A Operation: 135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015893
-Alternative	Changzhou Changhong Tongli Electric Appliance Co. Ltd.	KW Series	250V; 6A; Operation: 135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40020906
-Alternative	Zhejiang Dongyang Hengdian Thermal Protector Factory	KSD-Ⅱ Series	250V; 5A; Operation: 135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 139430
-Alternative	Texas Instruments Holland B.V.	17AM Series	250V; 10A; Operation: 135°C	IEC/EN 60730-1 IEC/EN 60730-2-2 IEC/EN 60730-2-3 IEC/EN 60730-2-9	KEMA 2014531.05
-Alternative	Sensata Technologies Holland, B.V.	BW Series	250V; 6A; Operation: 135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	KEMA 2094754.01
Supplementary information: [1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

24.1-3	**TABLE: Critical components information VDMA-CTT024T03A, RDMA-CTT024T03A**				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
Stepping Motor 1#	Jiangsu Leili Motor Corporation Limited	MP24HF	DC12V; Main:150±7%Ω; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd	MP24HF	12V; Class A; Main:200±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Guangdong Huilipu Intelligent Technology Co., Ltd	MP24HF	12VDC; 200Ω±8%; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Stepping Motor 2#	Jiangsu Leili Motor Corporation Limited	MP35CJ	Main:130±8%Ω; 12V; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd	MP35CJ	Main:150±8%Ω; 12V; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Main Board	GREE	M554F1BMJ	----	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Alternative	GREE	M560F1SJ	----	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	GREE	M554F1QBMJ	----	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Y2 Capacitor	TDK Corporation	CS102M	250VAC; 102M; T125	IEC/EN 60384-14	VDE 40029781
Alternative	Murata Mfg. Co., Ltd.	KY102M	250VAC; 102M; T125	IEC/EN 60384-14	VDE 40006273
Alternative	Haohua Electronic Co.	CT7	250VAC; 102M; T125	IEC/EN 60384-14	VDE 40013601
Indoor fan motor capacitor	Ningbo Shine Electrical Co., Ltd.	CBB61S	3μF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50076953
Alternative	Shanghai Haoye Electric Co., Ltd.	MKPS	3μF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50035566
Alternative	Shanghai Haoye Electric Co., Ltd.	MKP-1	3μF; 450V; T85; P2/S3	IEC/EN 60252-1	VDE 40023685
Alternative	Guangdong Fengming Electronic Tech. Co., Ltd.	CBB61	3μF±5%; 450VAC; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50274996
X capacitor	Xiamen Faratronic Co. Ltd.	MKP62	104M; 275V; T110	IEC/EN 60384-14	VDE 40000358
Alternative	Anhui Xinyang Electronics Co., Ltd.	MKP	0,1μF; 275V; T100	IEC/EN 60384-14	VDE 40024537
Varistor	Chengdu Tieda Electronic Co., Ltd.	MYN15-621K	385V(r.m.s)AC; T85	CECC 42000 CECC 42200 CECC 42201 IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008571
Alternative	Fenghua Adv. Tech. (Holding) Co., Ltd.	FNR-14K621	385V(r.m.s)AC; T85	CECC 42000 CECC 42200 CECC 42201 IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008242
Opto-coupler	Sharp Corporation Electronic Components and Devices Division	PC817	Vceo:80V; If:50mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40008087
Alternative	Sharp Corporation Electronic Components and Devices Division	PC817	Vceo:80V;If:50mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40008087
Alternative	Avago Technologies Manufacturing	HCPL-817	Vceo:70V; If:50mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40016429

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou, China
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Opto-coupler 2#	Sharp Corporation	3SD11	Vdrm: 600V; If: 50mA; It: 0,1A	IEC/EN 60747-5-2	VDE 40008189
Alternative	Everight electronics co., LTD	EL3053	If:0-60mA; Itsm:1A; Vceo:600V; Topr:-55~110°C	IEC/EN 60747-5-5	VDE 132249
High Frequency Transformer	DONGGUAN DAZHONG ELECTRONIC CO., LTD	EE22-9D	85-265V; 132KHz; 12V; (4-1)3,0Ω MAX,(6-7)118mΩ MAX; (10-9)70mΩ MAX; 2,2mH±10%; 30uH MAX; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	HUIZHOU JIAYANG ELECTRONIC NEW-TECH CO., LTD	EE22-9D	85-265V; 132KHz; 12V; (4-1)3,0Ω MAX,(6-7)118mΩ MAX; (10-9)70mΩ MAX; 2,2mH±10%; 30uH MAX; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	HUIZHOU JIAYANG ELECTRONIC NEW-TECH CO., LTD	EE22-9D	Input: 85-265VDC; Output: 6-7=8,8V; 10-9=8,8V; PIN4-1=3,0Ω MAX; PIN6-7=118mΩ MAX; PIN10-9=70mΩ MAX; 100kHz; 1V; PIN4-1=2,2mH±10%; 100kHz; 1V; PIN4-1=30uH.MAX; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Inductance	Qingdao Yunlu energy technology Co., Ltd.	260uH/2A	260uH; 2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	SHENZHEN YAMAXI ELECTRONICS CO., LTD	260uH/2A	260uH; 2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	HUIZHOU JIAYANG ELECTRONIC NEW-TECH CO., LTD	260uH/2A	260uH; 2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Hangzhou Ruichaung Idustry & Trade Co., Ltd.	260uH/2A	260uH; 2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Hangzhou Ruichaung Idustry & Trade Co., Ltd.	260uH/2A	260uH; 2A	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Filter	XINJI ELECTRONICS COMPONENT (HANGZHOU) CO. LTD	SF2022A-05220	AC250V; 0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Qingdao Yunlu energy technology Co., Ltd.	LB0522	AC250V; 0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	SHENZHEN YAMAXI ELECTRONIC CO. LTD	SF2022A-05220	AC250V; 0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	DAZHONG ELECTRONIC CO. LTD	SF2022A-05220	AC250V; 0,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Relay 1#	Xiamen Hongfa Electroacoustics Co., Ltd.	JZC-32F	250VAC; 5A; T70	IEC/EN 61810-1	VDE 40012204
Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SJ-S-112DM	250VAC; 5A; T85	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40002146
Alternative	Dongguan Churod Electronics Co., Ltd.	A1-S-112DA	250VAC; 5A; T85	IEC/EN 61810-1	TÜV Rheinland R50174892
Alternative	Song Chuan Precision Co., Ltd.	307-1AH-C	250VAC; 5A; T85	IEC/EN 61810-1	TÜV Rheinland R50128391
Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	OJE-SS-112DM	250VAC; 5A; T70	IEC/EN 61810-1	TÜV Rheinland R50139166
SSR Relay	Sharp Corporation Electronic Components and Devices Group	R3BMF5	250VAC; 1,2A; T85	IEC/EN 60747-5-2	VDE 40008898
Alternative	Panasonic Corporation Ise Factory	AQH3223	250VAC; 1,2A; T85	IEC/EN 60950	VDE 40004928
Alternative	Everlight electronics co., LTD	ELR3223	Operating voltage of insulation: 250V; 1,2A; -55~100°C	IEC/EN 60747-5-5	VDE 40028391
Fuse	Hollyland Company Limited	50CT	250V; 3,15A	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40014896
Alternative	Walter Electronic Co. Ltd.	TSC	250V; 3,15A	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40016670
Alternative	Dongguan Better Electronics Technology Co., Ltd.	524	T; 3,15A; H; 250V	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40025424

Rectifier	SHINDENGEN ELECTRIC MFG CO LTD	NC 80	600V; 1,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Terminal Block (4 bits)	CHANGZHOU KAIDU ELECTRICAL CO., LTD.	JX-G-4C	AC250V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1	VDE 40020936
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	JX1239	250V; 2,5mm²	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co. Ltd.	JXW-4-G1	AC250V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1 IEC/EN 61210	VDE 40013197
Terminal Block (5 bits)	Changzhou Kaidu Electrical Co Ltd	JX-G-5H	500V; 4mm²	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co., Ltd.	JXW	AC500V; 4mm²;	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Cold Plasma Generator	Shandong Xuesheng Technology Co., Ltd.	XS-PL-06	220-240VAC; 50/60Hz; ≤2W	IEC/EN 60335-1 IEC/EN 60335-2-65	TÜV Rheinland R50172899
Indoor fan motor	Zhuhai Kaibang Motor Manufacturing CO., LTD.	FN35A-PG	220-240V; 50Hz; 35W; 0,35A; Main:125±8%Ω; Aux:147,7±8%Ω; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhongshan Broad-Ocean Motor CO., LTD.	FN35A-PG	220-240V; 0,32A; 50Hz; 35W; Class E; Main:207,3±8%Ω; Aux:179,1±8%Ω (T=20°C)	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	WOLONG ELECTRIC GROUP CO., LTD.	FN35A-PG	220-240V~; 0,450A; 50Hz; 35W; Class E; Main:117,6±8%Ω; Aux:134,0±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai city Tongde electric equipment co., ltd	FN35A-PG	220-240V; 0,45A; 50Hz; 35W; Class E; Main:97,5±8%Ω; Aux:125,5±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
-Thermal protector of fan motor	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-B5D	250V; 5A; Operation: 100°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015984
-Alternative	Changzhou Changhong Tongli Electric Appliance Co. Ltd.	KW Series	250V; 8A; Operation: 100°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40020906

-Alternative	Sensata Technologies Holland. B.V.	BRL Series	250V; 8A; Operation: 100°C	IEC/EN 60730-1 IEC/EN 60730-2-2	KEMA 2089558.01
Power Cord	Guangdong Huasheng Electrical Appliances Co., Ltd.	H05VV-F	3G2,5mm²	DIN VDE 0282-1 HD 21.5 S3	VDE 40005362
Alternative	Changzhou Hong Chang Electronics Co. Ltd.	H05VV-F	3G2,5mm²	DIN VDE 0281-5 HD 21.5 S3 IEC 60227	VDE 124978
Alternative	Guangdong KaiHua Electrical Appliances Co., Ltd.	H05VV-F	3G2,5mm²	DIN EN 50525-2-11; VDE 0285-525-2-11; EN 50525-2-11	VDE 40001903
Alternative	Guangdong Huasheng Electrical Appliances Co., Ltd.	H05VV-F	3G1,5mm^2	DIN VDE 0281-5	VDE 40005362
Alternative	Changzhou Hongchang Electronics Co., Ltd.	H05VV-F	3G1,5mm^2	DIN VDE 0281-5	VDE 124978
Alternative	Guangdong Rifeng Electrical Cable Co., Ltd.	H05VV-F	3G1,5mm^2	EN 50525-2-11	VDE 40043895
Interconnection cord 1#	Guangdong Huasheng Electrical Appliances Co., Ltd.	H07RN-F	4G2,5mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40016788
Alternative	EASTWIRE INDUSTRIAL LIMITED	H07RN-F	4G2,5mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40016464
Alternative	Guangdong Rifeng Electrical Cable Co., Ltd.	H07RN-F	4G2,5mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40015999
Alternative	Guangdong Huasheng Electrical Appliances Co., Ltd.	H07RN-F	4G2,5mm²; 450/750V	IEC/EN 50525-2-21	VDE 40030537
Alternative	Guangdong Huasheng Electrical Appliances Co., Ltd.	H07RN-F	4G1,5mm^2	DIN VDE 0282-4	VDE 40016788

Alternative	Dong Guan Eastwire Industrial limited	H07RN-F	4G1,5mm^2	DIN VDE 0282-4	VDE 40016464
Alternative	GuangDong RiFeng Electric cable co., ltd	H07RN-F	4G1,5mm^2; 450/750V	EN 50525-2-21	VDE 40015999
Alternative	Guangdong Huasheng Electrical Appliances Co., Ltd.	H07RN-F	3G2,5mm²	DIN VDE 0282-4	VDE 40016788
Alternative	Eastwire Industrial Limited	H07RN-F	3G2,5mm²	VDE 0282	VDE 40016464
Alternative	GUANGDONG RIFENG ELECTRICAL CABLE CO., LTD	H07RN-F	3G2,5mm²	EN 50525-2-21	VDE 40015999
Interconnection cord 2#	Guangdong Huasheng Electrical Appliances Co., Ltd.	H05RN-F	2×0,75mm²	DIN VDE 0282-4	VDE 40016788
Alternative	Eastwire Industrial Limited	H05RN-F	2×0,75mm²	VDE 0282	VDE 40016464
Alternative	GUANGDONG RIFENG ELECTRICAL CABLE CO., LTD	H05RN-F	2×0,75mm²	EN 50525-2-21	VDE 40015999
Compressor and Fittings	Zhuhai Landa Compressor Co., Ltd.	QXAH-F232F450	220-240V; 50Hz; 1502W; 1,4±5%Ω; 1,76±5%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
-Compressor Overload Protector	Ubukata Industries Co., Ltd.	UP3-07	AC250V; Open: 145±5°C; Close: 90±10°C	IEC/EN 60730-1 IEC/EN 60730-2-4	VDE 136742
Alternative compressor and Fittings	ZHUHAI LANDA COMPRESSOR CO. LTD.	QXA-E232H050	220-240V; 50Hz; 1865W; Class B; 1,57±7%Ω; 1,671±7%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Compressor Overload Protector (Internal)	Ningbo Ubukata Hengdian Electric Co. Ltd.	UP3-09	AC220-240V; Open:145±5°C; Close:90±10°C	IEC/EN 60730-1 IEC/EN 60730-2-4	VDE136742
Pressure Protect Switch	Changzhou Match-well Pressure Control Technique Co., Ltd.	YK-4.5/3.8	250V; 3A	IEC/EN 60730-1 IEC/EN 60730-2-6	VDE 40000571
Alternative	Nantong Huaguan Electric Co. Ltd.	SP-H	250V; 3A	IEC/EN 60730-1 IEC/EN 60730-2-6	VDE 40043185

Alternative	Zhenjiang Honglian Electrician Co., Ltd.	YK-4.4/3.8	250V; 6A	IEC/EN 60730-1 IEC/EN 60730-2-6	TÜV Rheinland R50302525
Alternative	Changzhou Match-Well Pressure Control Technology Co., Ltd	YK-4.6/3.8	250V; 3A	IEC/EN 60730-1 IEC/EN 60730-2-6	VDE 40000571
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	YK-4.6/3.8	250V; 6A	IEC/EN 60730-1 IEC/EN 60730-2-6	TÜV Rheinland J50302525
Compressor Capacitor QXAH-F232F450	Zhuhai Gree Xinyuan Electronic Co., LTD	CBB65	45μF; 450VAC; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50127276
Alternative	Ningbo Shine Electrical Co., Ltd.	CBB65A	45μF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50199650
Alternative	Ningbo Shine Electrical Co. Ltd.	CBB65A-1	45μF; 450V; T70; P2/S3	IEC/EN 60252-1	VDE 40031628
Alternative	Anhui Feida Electrical Technology Co., Ltd	CBB65A-1	45μF; 450VAC; T85; P2/S3	IEC/EN 60252-1	VDE 40019572
Compressor Capacitor for QXA-E232H050	Zhuhai Gree Xinyuan Electronic Co., LTD	CBB65	60uF; 450VAC; T70	IEC/EN 60252-1	TÜV Rheinland R50127276
Alternative	Ningbo Shine Electrical Co., Ltd (NBSEC or NR)	CBB65A	60μF; 450V; T70	IEC/EN 60252-1	TÜV Rheinland R50199650
Alternative	Anhui Feida Electrical Technology Co., Ltd	CBB65A-1	60μF; 450VAC; T85	IEC/EN 60252-1	VDE 40019572
Outdoor fan motor capacitor	Xiamen Faratronic Co., Ltd.	C6G	3,5μF; 450V; T85; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50266163
Alternative	Ningbo Shine Electrical Co., Ltd.	CBB61S	3,5μF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50076953
Alternative	Shanghai Haoye Electric Co., Ltd.	MKPS	3,5μF; 450V; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50035566
Alternative	Shanghai Haoye Electric Co., Ltd.	MKP-1	3,5μF; 450V; T85; P2/S3	IEC/EN 60252-1	VDE 40023685

Alternative	Guangdong Fengming Electronic Tech. Co., Ltd.	CBB61	3,5μF; 450VAC; T70; P2/S3	IEC/EN 60252-1	TÜV Rheinland R50274996
Terminal Block (3 bits)	CHANGZHOU KAIDU ELECTRICAL CO., LTD.	JX-G-3	AC250V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1	VDE 40020936
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	JX1218	250V; 2,5mm²	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Nantong Huaguan Electric Co. Ltd.	JXW-3-G	250VAC; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1 IEC/EN 61210	VDE 40013197
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	JXE3	250V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1 IEC/EN 61210	TÜV Rheinland R50096041
AC Contactor	Dongguan Churod Electronics Co., Ltd.	CHAC-1220HA25	Ue:240V; Us:220-240V; 50/60Hz; Ie:25A; Ic:150A; Ith:32A	IEC/EN 60947-4-1	TÜV Rheinland R50323842
Alternative	Guilin Machine Tools Electrical Appliance Limited Company	CJX9B-25S/D	AC-8a; Ie: 25A; Ue:240VAC; Ith:32A; Us:220-240VAC (50/60Hz); Ui=690V; T70	IEC/EN 60947-4-1	TÜV Rheinland R50010727
Alternative	Hartland Controls LLC (USA)	HCC-1NU01BB240C	208/240VAC; 50/60Hz; 240/277V/25A; 480V/25A; 600V/25A	IEC/EN 60947-4-1	Cert. No 1301170
Outdoor fan Motor	Zhongshan Nan-Feng Electrical Machinery Co., Ltd.	LW60J	220-240V; 0,60A; 50Hz; 60W; Main:90,1±8%Ω; Aux:112,5±8%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhongshan Broad-Ocean Motor CO., LTD.	LW60J	220-240V~; 50Hz; 60W; 0,6A; Main:106,5±8%Ω; Aux:132,0±8%Ω; Class B/F	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai Kaibang Motor Manufacturing CO., LTD.	LW60J	220-240V; 50Hz; 60W; 0,58A; Main:83,7±8%Ω; Aux:92,6±8%Ω; Class B/F	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Alternative	Zhejiang Wolong Home Appliance Motor Co., Ltd	LW60J	220-240V; 60W; 50Hz; 0,60A; Main:116±8%Ω; Aux:145±8%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Zhuhai city Tongde electric equipment co., ltd	LW60J	220-240V; 0,60A; 50Hz; 60W; main:79±8%Ω; Aux:116±8%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Jiangmen LT Motor Co., Ltd	LW60J	220-240V; 50Hz; 60W; 0,61A; Main:78,2±8%Ω; Aux: 99,4±8%Ω; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
-Overheat protector of fan motor	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-A Series	250V; 5A; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015893
-Alternative	Jiangsu Changsheng Electric Appliance Co. Ltd.	17AM-D Series	250V; 8A; Operation:135±5°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40016509
-Alternative	Jiangsu Changsheng Electric Appliance Co. Ltd.	BR-A2D Series	250V; 6A; / 125V; 10A; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40015893
-Alternative	Changzhou Changhong Tongli Electric Appliance Co. Ltd.	KW Series	250V; 6A; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40020906
-Alternative	Zhejiang Dongyang Hengdian Thermal Protector Factory	KSD-II Series	250V; 5A; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 139430
-Alternative	Texas Instruments Holland B.V.	17AM Series	250V; 10A; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2 IEC/EN 60730-2-3 IEC/EN 60730-2-9	KEMA 2014531.05
-Alternative	Sensata Technologies Holland. B.V.	BW Series	250V; 6A; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	KEMA 2094754.01
-Alternative	Jiangsu Changsheng Electric Appliance Co., Ltd	BR-A-135°C	AC250V; Operation:135°C	IEC/EN 60730-1 IEC/EN 60730-2-2	VDE 40040873
Supplementary information: [1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

24.1-4	**TABLE: Critical components information VDMA-CTT028T03A, RDMA-CTT028T03A**	P

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
Indoor unit					
Main Board	GREE	M863F1DJ	----	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	GREE	M863F1CQJ	----	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	GREE	M863F1DQJ	----	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Y1 Capacitor #1	TDK Corporation	CD472M	250VAC; 472M: T125	IEC/EN 60384-14	VDE 40029780
Alternative	Murata Mfg. Co., Ltd.	KX472M	250VAC; 472M; T125	IEC/EN 60384-14	VDE 40002831
Alternative	Haohua Electronic Co.	CT7	Y1; 472M; 500VAC/250VAC; T85	IEC/EN 60384-14	VDE 40003902
Y1 Capacitor #2	TDK Corporation	CD222M	250VAC; 222M; T125	IEC/EN 60384-14	VDE 40029780
Alternative	Murata Mfg. Co., Ltd.	KX222M	250VAC; 222M; T125	IEC/EN 60384-14	VDE 40002831
Alternative	Haohua Electronic Co.	CT7	Y1; 222M; 500VAC/250VAC; T85	IEC/EN 60384-14	VDE 40003902
X2 capacitor	Xiamen Faratronic Co. Ltd.	MKP62	0,1uF; 275V; T110	IEC/EN 60384-14	VDE 40000358
Alternative	Anhui Xinyang Electronics Co., Ltd.	MKP	0,1µF; 275V; T100	IEC/EN 60384-14	VDE 40024537
Varistor	Chengdu Tieda Electronic Co., Ltd.	MYN15-621K	385V(r.m.s)AC; T85	CECC 42000; CECC 42200; CECC 42201; IEC 61051-1; IEC 61051-2; IEC 61051-2-2	VDE 40008571
Alternative	Fenghua Adv. Tech. (Holding) Co., Ltd.	FNR-14K621	385V(r.m.s)AC; T85	CECC 42000; CECC 42200; CECC 42201; IEC 61051-1; IEC 61051-2; IEC 61051-2-2	VDE 40008242
Opto-coupler	Toshiba Corporation Semiconductor & Storage Products Company	TLP785	Vceo:80V; If:60mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40031808
Alternative	Sharp Corporation Electronic Components and Devices Division	PC817	Vceo:80V; If:50mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40008087

Alternative	Avago Technologies Manufacturing	HCPL-817	Vceo:70V; If:50mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40016429
Alternative	Toshiba Corporation	TLP385	Vceo:80V; If:50mA; Ic: 50mA	IEC/EN 60747-5-2	VDE 40040216
High Frequency Transformer	TDK XIAMEN Co., LTD.	ECO20-8PA	Input:85V-264V; 132KHz; 1,15Ω; Output:20V/12V; 100mA/800mA; 0,390Ω; 61,0mΩ; Pri.: 1,3mH; Pri.:55uH MAX; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	SHENZHEN YAMAXI ELECTRONICS CO., LTD	ECO20-8PA	Input:85V-264V; 132KHz; 1,15Ω; output:20V/12V; 100mA/800mA; 0,390Ω; 61,0mΩ; Pri.:1,3mH; Pri.:55uH MAX; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	SHENZHEN SHI YAMAXI ELECTRONIC CO., LTD	ECO20-8PD (ER020V-0026)	Input: 220V; 50Hz; output: 12V; 1,4A / 20V; 0,1A; Pri.: DCR3-1: 1.22ΩMax.; DCR6-5: 250mΩMax.; SEC: DCR8-7: 60mΩMax.; DCR11-12: 0,68Ω Max.; 820uH±10%; 55uH MAX; Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Inductance #1	XINJI ELECTRONICS COMPONENT (HANGZHOU) CO. LTD	10uH	10uH; 1,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Shenzhen Yamaxi Electronic Co., Ltd.	10uH	10uH; 1,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Dongguan Dazhong Electronic Co., Ltd.	10uH	10uH; 1,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Inductance #2	Qingdao Yunlu energy technology Co., Ltd.	15mH/1A	15mH; 1A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Shenzhen Yamaxi Electronic Co., Ltd.	15mH/1A	15mH; 1A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Relay #1	Xiamen Hongfa Electroacoustics Co., Ltd.	JZC-43F	250VAC; 3A; T85; 10000cycles	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40002220

Alternative	OMRON Corporation Safety Standards Group	G5NB-1A	250VAC; 3A; T85; 10000cycles	IEC/EN 61810-1 IEC/EN 60255-23	VDE 137575
Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SRB-S-112DM	277VAC; 5A; T85; 10000cycles	IEC/EN 61810-1	TÜV Rheinland R50138320
Alternative	Dongguan Churod Electronics Co., Ltd.	CHM-S-112DA3	250VAC; 3A; T90; 10E4cycles	IEC/EN 61810-1	TÜV Rheinland R50196152
Alternative	Song Chuan Precision Co. Ltd.	202N-1AC-C	250VAC; 5A; T85; 10000cycles	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40008369
Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	PCJ-112D3M	250VAC; 3A; T90; 10000cycles	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40009151
Relay #2	Xiamen Hongfa Electroacoustics Co., Ltd.	HF32F-G	250VAC; 10A; T85; 100000cycles	IEC/EN 61810-1	VDE 40012204
Alternative	Dongguan Churod Electronics Co., Ltd.	A1-S-112HA	250VAC; 10A; 10E4cycles; T85	IEC/EN 61810-1	TÜV Rheinland R50174892
Alternative	Song Chuan Precision Co. Ltd.	835-1A-B-C	250VAC; 10A; T85; 50000cycles	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40010643
Alternative	Song Chuan Precision Co., Ltd.	835-1A-B-C	277VAC; 10A; T85	IEC/EN 61810-1	TÜV Rheinland R9552647
Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	OJT-SH-112DM	250VAC; 5A; T70; 100000cycles	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40007630
Alternative	Tyco Electronics (shenzhen) Co., Ltd	OJE-SS-112HMF	250VAC; 10A; -30~70°C; 10E4cycles	IEC/EN 61810-1 IEC/EN 60255-23	TÜV Rheinland R50139166
Rectifier	SHINDENGEN ELECTRIC MFG CO LTD	NC 80	600V; 1,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Fuse	Hollyland Company Limited	5ET	250V; 3,15A	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40015669
Alternative	Dongguan Better Electronics Technology Co., Ltd.	524	T; 3,15A; H; 250V	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40025424
Terminal Board(4 bits)	CHANGZHOU KAIDU ELECTRICAL CO., LTD.	JX-G-4C	AC250V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1	VDE 40020936
Alternative	Zhenjiang Honglian Electrician Co., Ltd.	JX1239	250V; 2,5mm²	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Alternative	Nantong Huaguan Electric Co. Ltd.	JXW-4-G1	AC250V; 2,5mm²	IEC/EN 60998-1 IEC/EN 60998-2-1 IEC/EN 61210	VDE 40013197
Cold Plasma Generator	Shandong Xuesheng Technology Co., Ltd.	XS-PL-06	220-240VAC; 50/60Hz; ≤2W	IEC/EN 60335-1 IEC/EN 60335-2-65	TÜV Rheinland R50172899
Fan Motor	Dongguan Shinano Motor Co., Ltd	FN60B-ZL	DC310V; 60W; 0,24A; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	ZHUHAI KAIBANG MOTOR MANUFACTURING CO., LTD.	FN60B-ZL	DC310V; 50W; Class E	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Stepping Motor	Jiangsu Leili Motor Corporation Limited	MP24HF	DC12V; Class A; Main:150±7%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd	MP24HF	DC12V; Class A; Main:200±8%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Guangdong Huilipu Intelligent Technology Co., Ltd	MP24HF	12VDC; 200Ω±8%; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Jiangsu Leili Motor Corporation Limited	MP35CJ	Main:130±8%Ω; DC12V; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd	MP35CJ	Main:150±8%Ω; DC12V; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Jiangsu Leili Motor Co., Ltd.	MP35CP	Main:100±8%Ω; DC 12V; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Jiangsu Huayang Electrical Appliance Co., Ltd	MP35CP	Main:100±8%Ω; DC 12V; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Oukai Electrical Appliance Co., Ltd	MP35CP	Main:100±8%Ω; DC 12V; Class A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Outdoor unit					
Supply cord	Guangdong Huasheng Electrical Appliances Co., Ltd.	H07RN-F	3G2,5mm²; 450/750V	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40016788
Alternative	Guangdong Huasheng Electrical Appliances Co., Ltd.	H07RN-F	3G2,5mm²; 450/750V	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40030537
Alternative	EASTWIRE INDUSTRIAL LIMITED	H07RN-F	3G2,5mm²	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40016464

Interconnection cord	Guangdong Huasheng Electrical Appliances Co., Ltd.	S05RN-F	4G0,75mm²; 300/500V	DIN VDE 0282-4 HD 22.4 S4 IEC 60245	VDE 40015785
Alternative	Guangdong Rifeng Electrical Cable Co., Ltd.	H05RN-F	4G0,75mm²; 300/500V	DIN EN 50525-2-21	VDE 40025424
Compressor and Fittings	Zhuhai Landa Compressor Co., Ltd.	QXASH-F295N450	220-240V; 50Hz; 2460W; 1,09Ω±5%/ 2,14Ω±5%; Class B	IEC/EN 60335-1 IEC/EN 60335-2-34	TÜV Rheinland R50136489
Compressor Overload Protector (Internal)	Ubukata Industries Co., Ltd.	UP14RE5245-M	Open: 155±5°C; Close: 90±10°C	IEC/EN 60730-1 IEC/EN 60730-2-4	VDE 127412
Pressure Protect Switch	Changzhou Match-well Pressure Control Technique Co., Ltd.	YK-4.5/3.8	250V; 3A	IEC/EN 60730-1 IEC/EN 60730-2-6	VDE 40000571
Alternative	Nantong Huaguan Electric Co. Ltd.	SP-H	250V; 3A	IEC/EN 60730-1 IEC/EN 60730-2-6	VDE 40043185
Y1 Capacitor	TDK Corporation	CD472M	250VAC; 472M; T125	IEC/EN 60384-14	VDE 40029780
Alternative	Murata Mfg. Co., Ltd.	KX472M	250VAC; 472M; T125	IEC/EN 60384-14	VDE 40002831
X2 Capacitor #1	Xiamen Faratronic Co. Ltd.	MKP62	0,68µF; 275V; T110	IEC/EN 60384-14	VDE 40000358
Alternative	Okaya Electric Industries Co., Ltd.	LE684	0,68µF; 275V; T100	EN 132400 IEC 60384-14	ENEC Semko SE/0142-1D
PTC Resistance	Hubei Huagong Gaoli Electronic Co. Ltd.	MZ8IV-B470N	R=47±20%Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Dandong Guotong Electronic Components Co., Ltd	MZ-47R-A	R=47(1±20%)	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Varistor	Chengdu Tieda Electronic Co., Ltd.	MYN15-621K	385V(r.m.s)AC; T85	CECC 42000 CECC 42200 CECC 42201 IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008571
Alternative	Fenghua Adv. Tech. (Holding) Co., Ltd.	FNR-14K621	385V(r.m.s)AC; T85	CECC 42000 CECC 42200 CECC 42201 IEC 61051-1 IEC 61051-2 IEC 61051-2-2	VDE 40008242
IPM	Sanken Electric Co., Ltd.	SIM6812M	500V; 2,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance

Alternative	Sanken Electric Co., Ltd.	SIM6822M	Vces:600V; Io:5A; Iop:7,5A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Opto-coupler #1	Sharp Corporation Electronic Components and Devices Division	PC817	Vceo:80V; If:50mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40008087
Alternative	VISHAY Semiconductor GmbH	VO617A	Vceo:80V; If:60mA; Ic:50mA	IEC/EN 60747-5-5	VDE 40033345
Alternative	Toshiba Corporation Semiconductor & Storage Products Company	TLP785	Vceo:80V; If:60mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40031808
Inductance	Hangzhou Ruichuang Industry And Trade Co., Ltd.	1.5mH/0.3A	1,5mH; 0,3A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Shenzhen Yamaxi Electronic Co., Ltd.	1.5mH/0.3A	1,5mH; 0,3A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	QINGDAO YUNLU ENERGY TECHNOLOGY CO., LTD	1.5mH/0.3A	1,5mH; 0,3A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Filter	Qingdao Yunlu energy technology Co., Ltd.	1.5mH/4A	1,5mH; 4A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	HUIZHOU JIAYANG ELECTRONIC NEW-TECH CO., LTD	1.5mH/4A	1,5mH; 4A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Relay #1	Xiamen Hongfa Electroacoustics Co., Ltd.	HF32F-G	250VAC; 10A; T85; 100000cycles	IEC/EN 61810-1	VDE 40012204
Alternative	Dongguan Sanyou Electrical Appliances Co., Ltd.	SJ-SH-112DMH2	250VAC; 10A; T85; 10E4cycles	IEC/EN 61810-1	TÜV Rheinland R50142420
Alternative	Dongguan Churod Electronics Co., Ltd.	A1-S-112HAF	250VAC; 10A; T85; 10E4cycles	IEC/EN 61810-1	TÜV Rheinland R50174892
Alternative	Song Chuan Precision Co. Ltd.	835-1A-B-C	250VAC; 10A; T85; 50000cycles	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40010643
Alternative	Tyco Electronics (Shenzhen) Co., Ltd.	OJE-SS-112HMF	250VAC; 10A; T70; 10E4cycles	IEC/EN 61810-1	TÜV Rheinland R50139166
Fuse	Ever Island Electric Co., Ltd	2010	250V; 5A	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40018781

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Rectifier	LITE-ON SEMICONDUCTOR CORP. (WANTAI INTERNATION TRADING LIMITED)	GBJ1508G	800V; 15A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Shanghai Microsemi Semiconductor Co., Ltd.	GBJ15J	600V; 15A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	SHINDENGEN ELECTRIC MFG CO LTD	D15XB 60	600V; 15A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	SHINDENGEN ELECTRIC MFG CO LTD	D15XB 60	600V; 15A	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Main Board	GREE	W5101TJ	--	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Y2 capacitor	TDK Corporation	CS472M	250VAC; 472M; T125	IEC/EN 60384-14	VDE 40029781
Alternative	Murata Mfg. Co., Ltd.	KY472M	250VAC; 472M; T125	IEC/EN 60384-14	VDE 40006273
X2 Capacitor #2	Xiamen Faratronic Co. Ltd.	MKP61	103K; 275V; T110	IEC/EN 132400	VDE 40007424
Alternative	Rongcheng PILKOR ELECTRONICS CO., LTD	PCX2-339	103M; 275VAC; T100	IEC/EN 60384-14	SE-0256-4J
Opto-coupler #2	Toshiba Corporation Semiconductor & Storage Products Company	TLP785	Vceo:80V; If:60mA; Ic:50mA	IEC/EN 60747-5-2	VDE 40031808
Relay #2	Xiamen Hongfa Electroacoustics Co., Ltd.	HF32F-G	250VAC; 10A; T85; 100000cycles	IEC/EN 61810-1	VDE 40012204
Alternative	Dongguan Churod Electronics Co., Ltd.	A1-S-112HA	250VAC; 10A; 10E4cycles; T85	IEC/EN 61810-1	TÜV Rheinland R50174892
Alternative	Song Chuan Precision Co. Ltd.	835-1A-B-C	250VAC; 10A; T85; 50000cycles	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40010643
Alternative	Song Chuan Precision Co., Ltd.	835-1A-B-C	277VAC; 10A; T85	IEC/EN 61810-1	TÜV Rheinland R9552647
Alternative	Tyco Electronics (shenzhen) Co., Ltd	OJT-SH-112DM	250VAC; 5A; T70; 100000cycles	IEC/EN 61810-1 IEC/EN 60255-23	VDE 40007630
Alternative	Tyco Electronics (shenzhen) Co., Ltd	OJE-SS-112HMF	250VAC; 10A; -30~70°C; 10E4cycles	IEC/EN 61810-1 IEC/EN 60255-23	TÜV Rheinland R50139166

Fuse	Hollyland Company Limited	50CT	250V; 3,15A	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40014896
Alternative	Walter Electronic Co. Ltd.	TSC	250V; 3,15A	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40016670
Alternative	Dongguan Better Electronics Technology Co., Ltd.	524	T; 3,15A; H; 250V	IEC/EN 60127-1 IEC/EN 60127-2	VDE 40025424
Compressor Capacitor	Zhuhai Gree Xinyuan Electronic Co., LTD	CBB65	50μF; 450VAC; T70; P2/S2	IEC/EN 60252-1	TÜV Rheinland R50127276
Alternative	Ningbo Shine Electrical Co., Ltd.	CBB65A	50μF; 450VAC; T70; P2/S2	IEC/EN 60252-1	TÜV Rheinland R50199650
Alternative	Ningbo Shine Electrical Co. Ltd.	CBB65A-1	50μF; 450VAC; T70; P2/S2	IEC/EN 60252-1	VDE 40031628
Alternative	Anhui Feida Electrical Technology Co., Ltd	CBB65A-1	50μF; 450VAC; T85; P2/S2	IEC/EN 60252-1	VDE 40019572
Terminal Board(5 bits)	Changzhou Kaidu Electrical Co Ltd	JX-G-5H	4mm²; 500VAC	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Changzhou Kaidu Electrical Co Ltd	JXG-5B	600V; 4mm²	IEC/EN 61210 IEC/EN 60998-1 IEC/EN60998-2-1	VDE 40042595
Alternative	Nantong Huaguan Electric Co., Ltd.	JXW-5-A	600V; 4mm²	IEC/EN 60998	VDE 40013197
Transformer	JINMEIJIA ELECTRONIC (SHENZHEN) CO., LTD	41×26.5G	220/230V; 50/60Hz; 11V; Pri.:450Ω±15%Ω; sec.:<4Ω (at 25±5°C); Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Alternative	Guangdong NRE Technology co., Ltd.	41X26.5G	AC220/230V; 50/60Hz; 11,0VAC; Pri.:450Ω±15%Ω; sec.:<4Ω; (at 25±5°C); Class B	IEC 60335-1 IEC 60335-2-40	Tested with appliance
AC Contactor	Guilin Machine Tools Electrical Appliance Limited Company	CJX9B-25S/00	AC-8a; Ie:25A; Ue:400VAC; Ith:32A; Us:220-240VAC (50/60Hz); Ui=690V; T70	IEC/EN 60947-4-1 IEC/EN 60947-5-1	TÜV Rheinland R50010727
Alternative	Hartland Controls LLC	HCC-1NU04AA240	277VAC; 25A	IEC/EN 60947-4-1	SEMKO308809
Alternative	Zhejiang CHINT Electrics Co., Ltd	NCK3-25/2	AC-8a; Ie: 25A; Ue:380/400VAC; Ith: 32A; Us:220VAC; Ui=630V; T70	IEC/EN 60947-4-1 IEC/EN 60947-1	VDE 40023551

Fan motor	Zhuhai Kaibang Motor Manufacturing CO., LTD.	LW92K-ZL	DC200~370V; 90W; Class E; 41±1,64Ω	IEC 60335-1 IEC 60335-2-40	Tested with appliance
Supplementary information: [1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

24.1-5	**TABLE: Critical components information**				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1)]
PCB material for all models					
PCB Material	Jiangxi Uniongain Electronics Technology Co.,Ltd	DS2	V-0	IEC 60335-2-40	Tested with appliance UL E464601
Alternative	PALWONN ELECTRONICS (SHENZHEN) CO.LTD	D3, D6	V-0	IEC 60335-2-40	Tested with appliance UL E230435
Alternative	CHANG CHUN PLASTICS CO LTD	CCP-508; CCP-508U	V-0	IEC 60335-2-40	Tested with appliance UL E108591
Alternative	SHENGYI TECHNOLOGY CO LTD	S3116	V-0	IEC 60335-2-40	Tested with appliance UL E109769
Alternative	SHENGYI TECHNOLOGY CO LTD	S3110	V-0	IEC 60335-2-40	Tested with appliance UL E109769
Alternative	SHENGYI TECHNOLOGY CO LTD	S1141	V-0	IEC 60335-2-40	Tested with appliance UL E109769
Alternative	KINGBOARD LAMINATES LTD	KB3151C	V-0	IEC 60335-2-40	Tested with appliance UL E123995
Alternative	SHENGYI TECHNOLOGY CO LTD	S2130	V-0	IEC 60335-2-40	Tested with appliance UL E109769
Alternative	KINGBOARD LAMINATES LTD	KB6160/P-138	V-0	IEC 60335-2-40	Tested with appliance UL E123995
Alternative	NAN YA PLASTICS CORP CCL DEPT ELECTRONIC MATERIAL DIV	FR-4-86	V-0	IEC 60335-2-40	Tested with appliance UL E98983
Alternative	SHENZHEN BOMIN ELECTRONIC CO LTD	BM2, BM6-1	V-0	IEC 60335-2-40	Tested with appliance UL E213371

Alternative	Huizhou Xingzhiguang Co.Ltd	XZG-P1, XZG-T1	V-0	IEC 60335-2-40	Tested with appliance UL E246887
Alternative	ZHUHAI JOINTEK ELECTRIC CO LTD	JK-004	V-0	IEC 60335-2-40	Tested with appliance UL E214852
Alternative	GUANGDONG XI NGDA HONGYE ELECTRONIC CO .,LTD	XD-102, XD-107	V-0	IEC 60335-2-40	Tested with appliance UL E193079
Alternative	SHUNDE JUNDA ELECTRONIC CO LTD	JD-D, JD-E	V-0	IEC 60335-2-40	Tested with appliance UL E173873
Alternative	BaoYueJia Electronics(Zhong Shan)Co.Ltd	BYJ-3	V-0	IEC 60335-2-40	Tested with appliance UL E230225
Alternative	TATCHUN PRINTED CIRCUIT BOARD CO.,LTD	TC-series	V-0	IEC 60335-2-40	Tested with appliance UL E131175
Alternative	JIANGMEN BENLIDA PCB FACTORY	BLD-A, BLD-B	V-0	IEC 60335-2-40	Tested with appliance UL E203640
Alternative	NAN YA PLASTICS CORP CCL DEPT ELECTRONIC MATERIAL DIV	UV BLOCK FR-4-86	V-0	IEC 60335-2-40	Tested with appliance UL E98983
Alternative	KINGBOARD LAMINATES HOLDINGS LTD	KB-6160/ KB-6160C	V-0	IEC 60335-2-40	Tested with appliance UL E123995
Alternative	KINGBOARD LAMINATES HOLDINGS LTD	KB5150/KB-5150&	V-0	IEC 60335-2-40	Tested with appliance UL E123995
Alternative	ZHUHAI JINHAO ELECTRONICS CO LTD	JP-3	V-0	IEC 60335-2-40	Tested with appliance & UL E309382
Alternative	LONRAY(WUPIN G) ELECTRONIC TECHNOLOGY CO LTD	LR-02	V-0	IEC 60335-2-40	Tested with appliance & UL E356536
Alternative	SICHUAN CHANHONG ELECTRONIC CO LTD	CH-2	V-0	IEC 60335-2-40	Tested with appliance & UL E169373
Supplementary information: [1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

28.1	**TABLE: Threaded part torque test**	P

Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)
Earthing screw	4,0	II	1,2
Screws on terminal board for electrical connection	4,0	II	1,2
Screws fixing connection box	4,0	II	1,2
Supplementary information: —			

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

Supplementary information:

*) For tracks on printed circuit boards if pollution degree 1 and 2
**) For pollution degree 3
***) If the construction is affected by wear, distortion, movement of the parts or during assembly

29.2	**TABLE: Creepage distances, basic, supplementary and reinforced insulation**										P
Working voltage (V)	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			Verdict
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9		—	—	N/A
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9	—		—	N/A
≤50	0,36	1,2	1,7	2,4	3,0	3,4	3,8	—	—		N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4		—	—	N/A

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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**	S**	R**	
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4	—		—	N/A
125	0,56	1,5	2,1	3,0	3,8	4,2	4,8	—	—		N/A
250	0,56	1,25	1,8	**2,5**	3,2	3,6	4,0	3,5	—	—	P
250	0,56	1,25	1,8	**2,5**	3,2	3,6	4,0	—	8,0	—	P
250	1,12	2,5	3,6	**5,0**	6,4	7,2	8,0	—	—	10,0	P
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	N/A
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	N/A
400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	N/A
500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	N/A
>630 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—		N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5		—	—	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—		—	N/A
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—		N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0		—	—	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—		—	N/A
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—		N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0		—	—	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—		—	N/A
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—		N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		—	—	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—		—	N/A
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—		N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0		—	—	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—		—	N/A
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—		N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		—	—	N/A

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**	S**	R**	
>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
Supplementary information: *) Material group IIIb is allowed if the working voltage does not exceed 50 V **) B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation											

29.2	TABLE: Creepage distances, functional insulation	P
Working voltage (V)	Creepage distance (mm) Pollution degree	Verdict / Remark

	1	2			3			
		Material group			Material group			
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	
≤10	0,08	0,4	0,4	0,4	1,0	1,0	1,0	N/A
50	0,16	0,56	0,8	1,1	1,4	1,6	1,8	N/A
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	N/A
250	0,42	1,0	1,4	**2,0**	2,5	2,8	3,2	P / 4,0 mm L & N pole on PCB
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0	N/A
500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	N/A
Supplementary information: *) Material group IIIb is allowed if the working voltage does not exceed 50 V								

30.1	**TABLE: Ball Pressure Test of Thermoplastics**		P
Allowed impression diameter (mm) :		≤2	—
Object/ Part No./ Material	**Manufacturer/ trademark**	**Test temperature (°C)**	**Impression diameter (mm)**
Terminal board	See table 24.1	125	<1,4
Bobbin of transformer	See table 24.1	125	<1,4
Connector on PCB board	—	125	<1,4
Plastic enclosure	—	75	<1,4
Supplementary information:—			

30.2	**TABLE: Resistance to heat and fire - Glow wire tests**		P
Object/	**Manufacturer**	**Glow wire test (GWT); (°C)**	**Verdict**

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		550	650		750		850	
			te	ti	te	ti		
Plastic enclosure	----	P	----	----	----	----	----	P
Terminal board	See table 24.1	----	----	----	No flame		P	P
Transformer bobbin	See table 24.1	----	----	----	No flame		P	P
Fan motor bobbin	See table 24.1	----	----	----	No flame		P	P
AC contactor	See table 24.1	----	----	----	No flame		P	P
Motor capacitor	See table 24.1	----	----	----	No flame		P	P
Relay	See table 24.1	----	----	----	No flame		P	P
Connector on PCB	----	----	----	----	No flame		P	P

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

The test specimen passed the glow wire test (GWT) with no ignition [(te – ti) ≤ 2s] (Yes/No):	Yes
If no, then surrounding parts passed the needle-flame test of annex E (Yes/No) :	N/A
The test specimen passed the test by virtue of most of the flaming material being withdrawn with the glow-wire (Yes/No)?.....:	Yes
Ignition of the specified layer placed underneath the test specimen (Yes/No) :	No

Supplementary information:

- 550 °C GWT not relevant (or applicable) to parts of material classified at least HB40 or if relevant HBF
- The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not relevant (or applicable) for attended appliances

30.2/30.2.4	TABLE: Needle- flame test (NFT)				P
Object/ Part No./ Material	**Manufacturer/ trademark**	**Duration of application of test flame (ta); (s)**	**Ignition of specified layer Yes/No**	**Duration of burning (tb) (s)**	**Verdict**
PCB	See table 24.1	30	No	0	P

Supplementary information:

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

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Photo documents:

VDMA-CTT012T03, RDMA-CTT012T03

Indoor unit:

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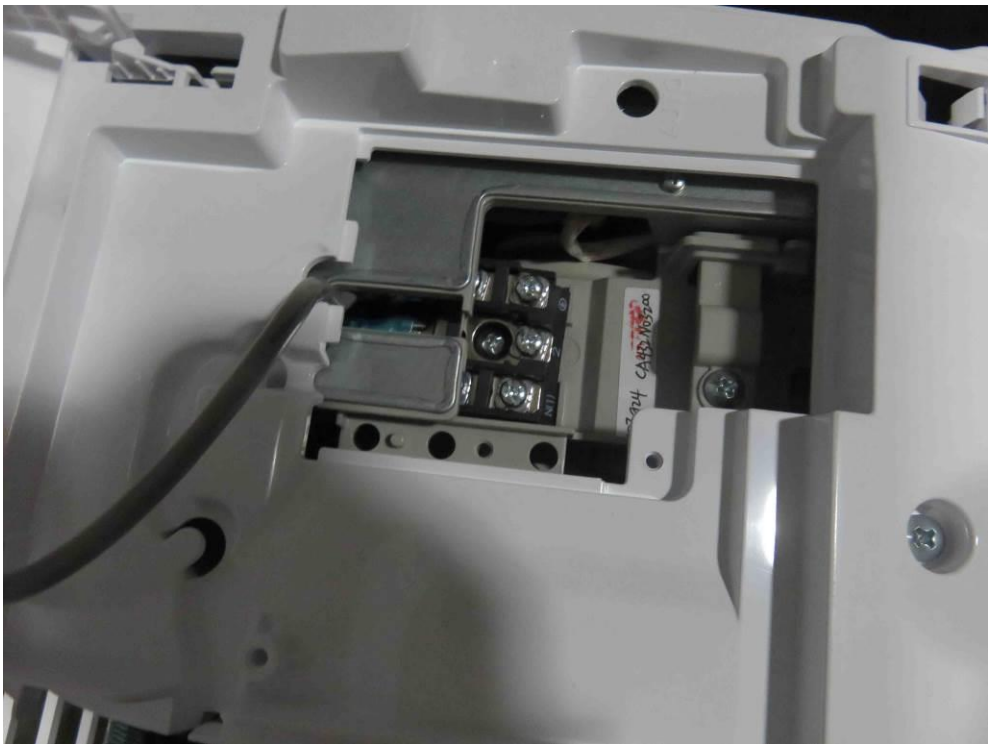

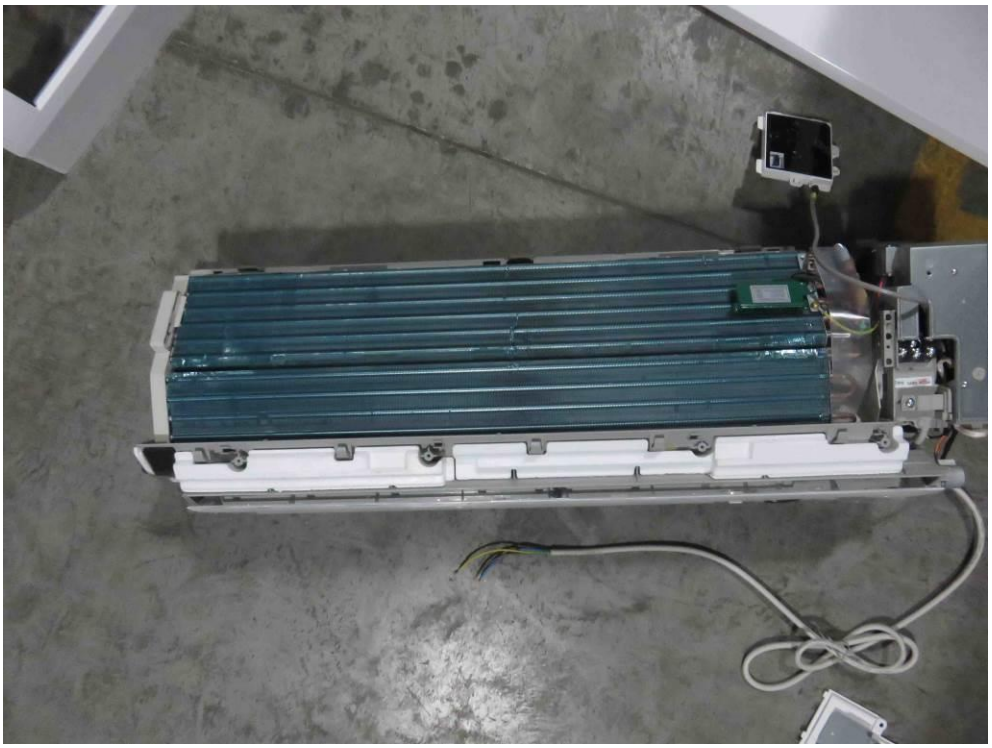

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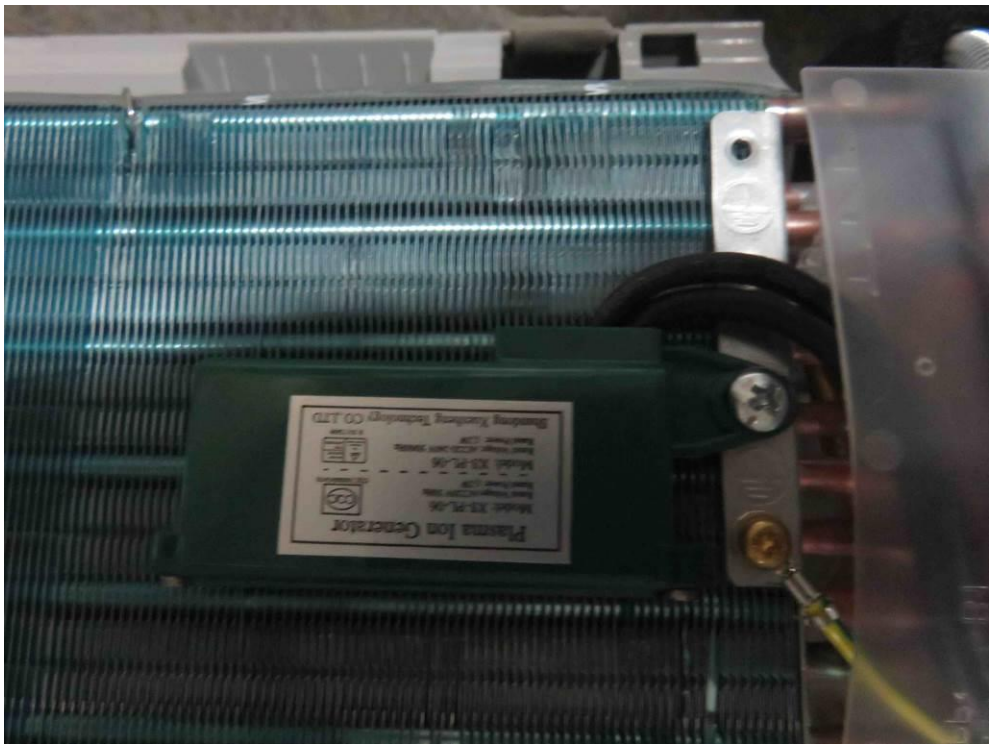

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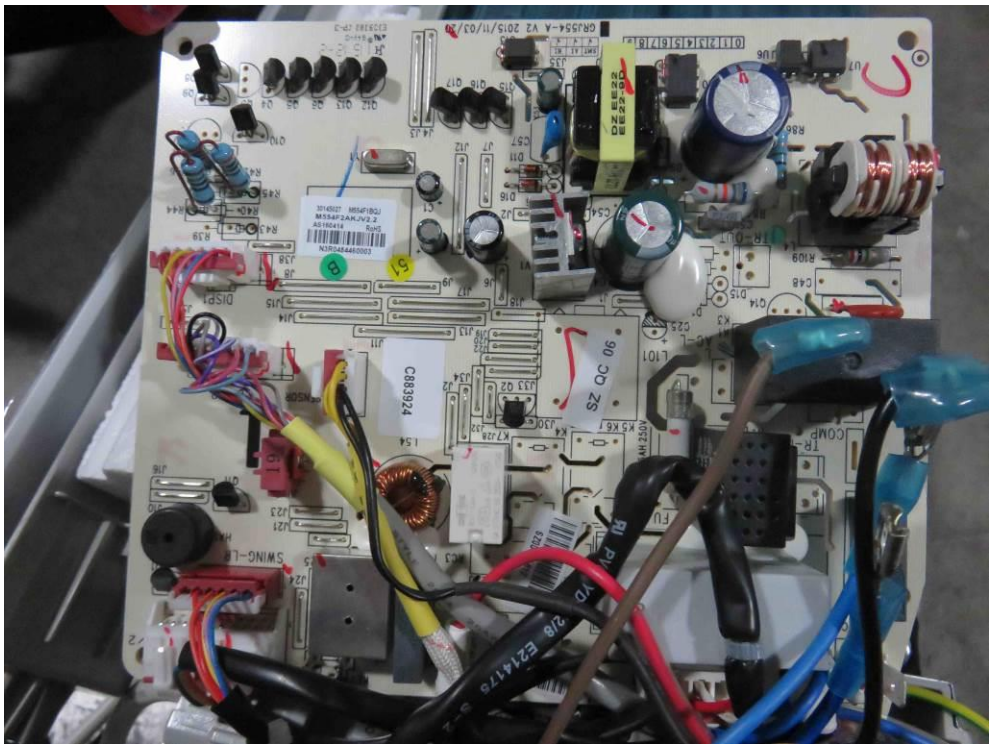

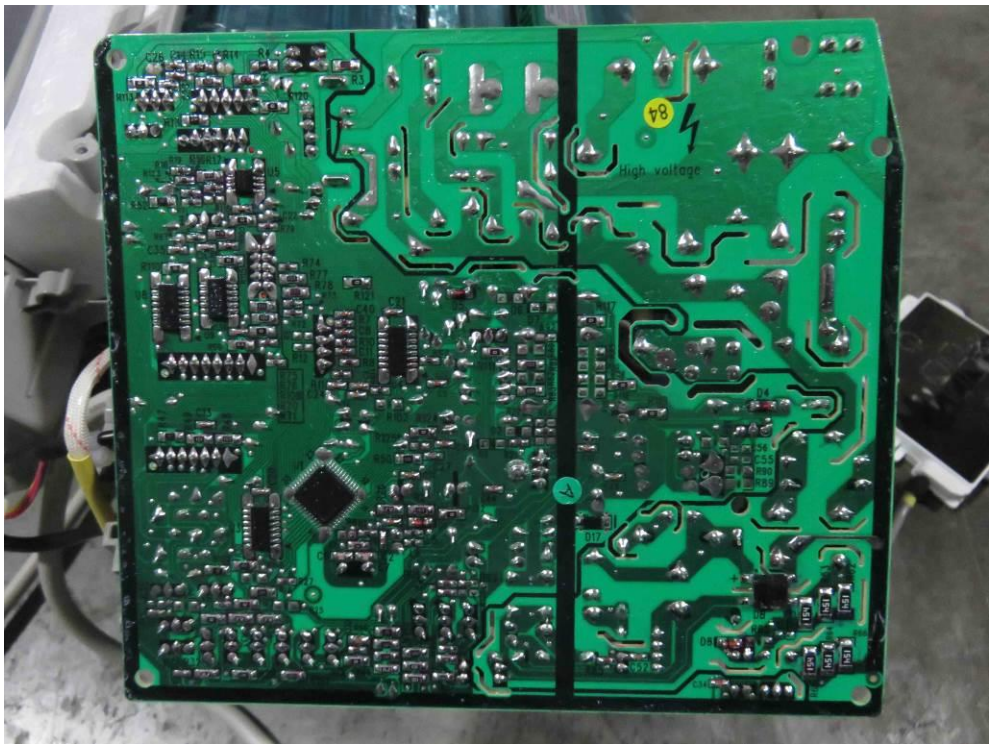

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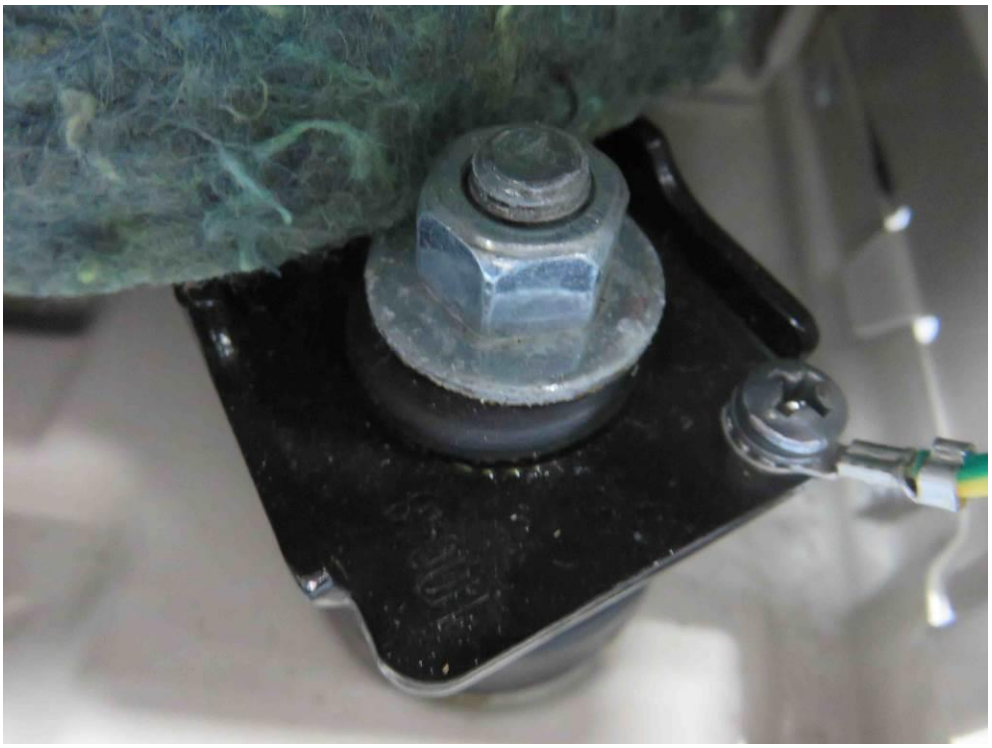

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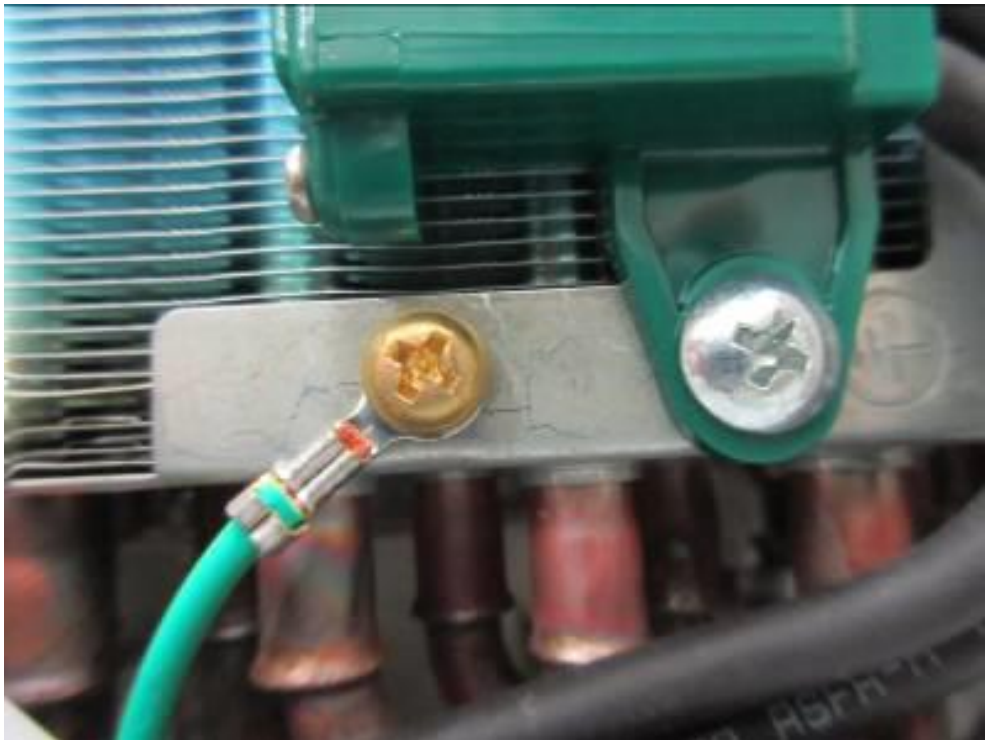

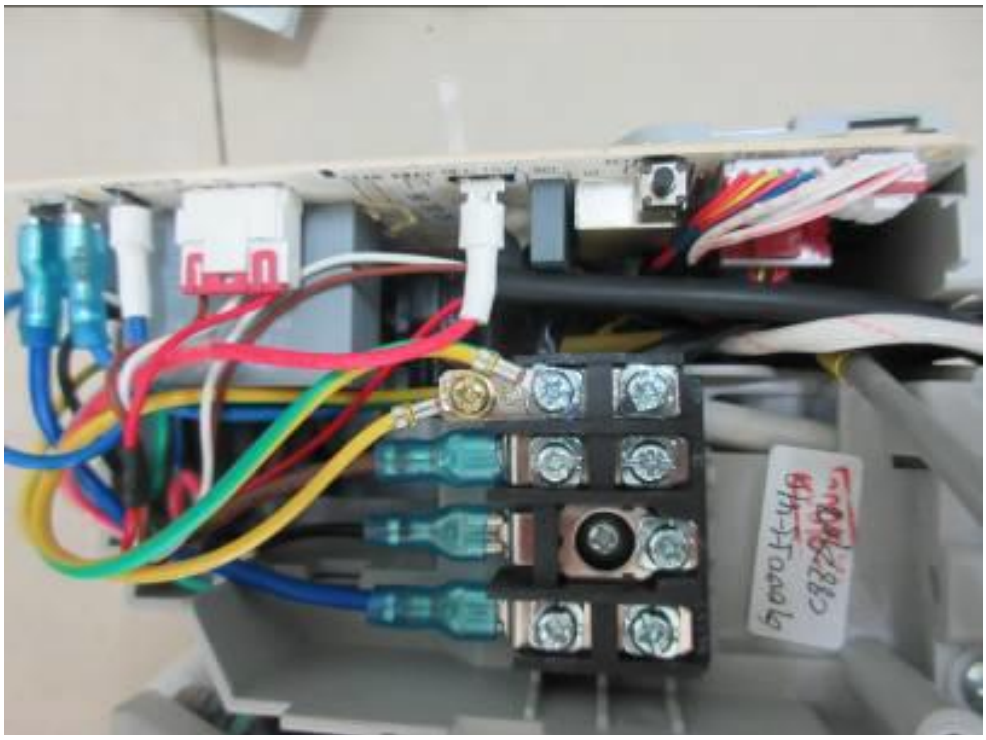

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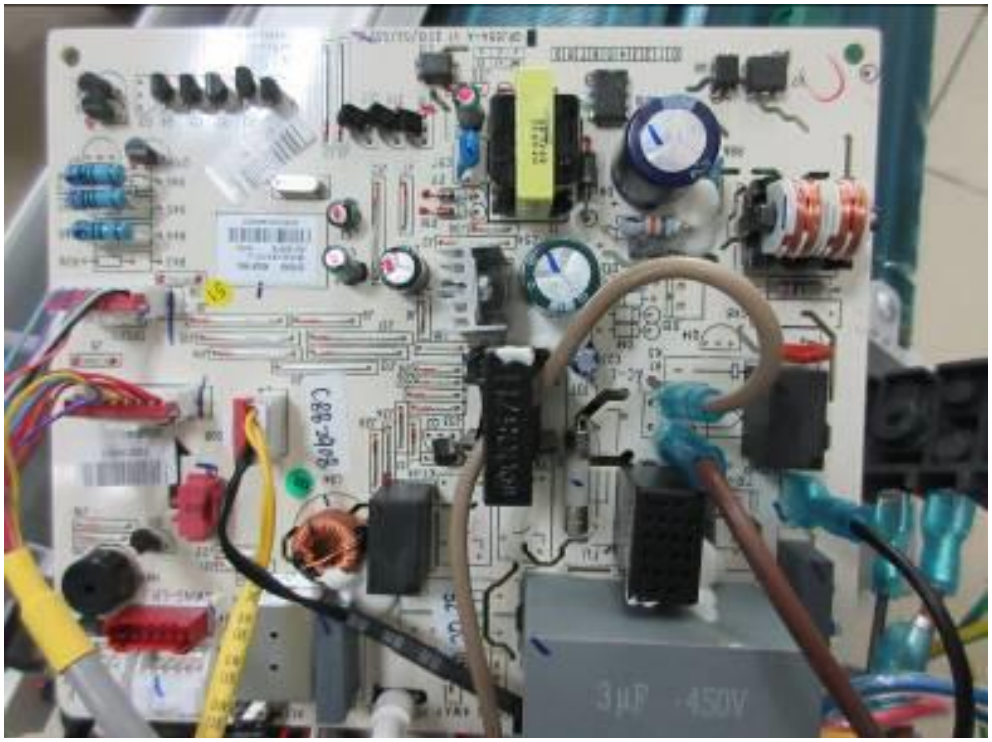

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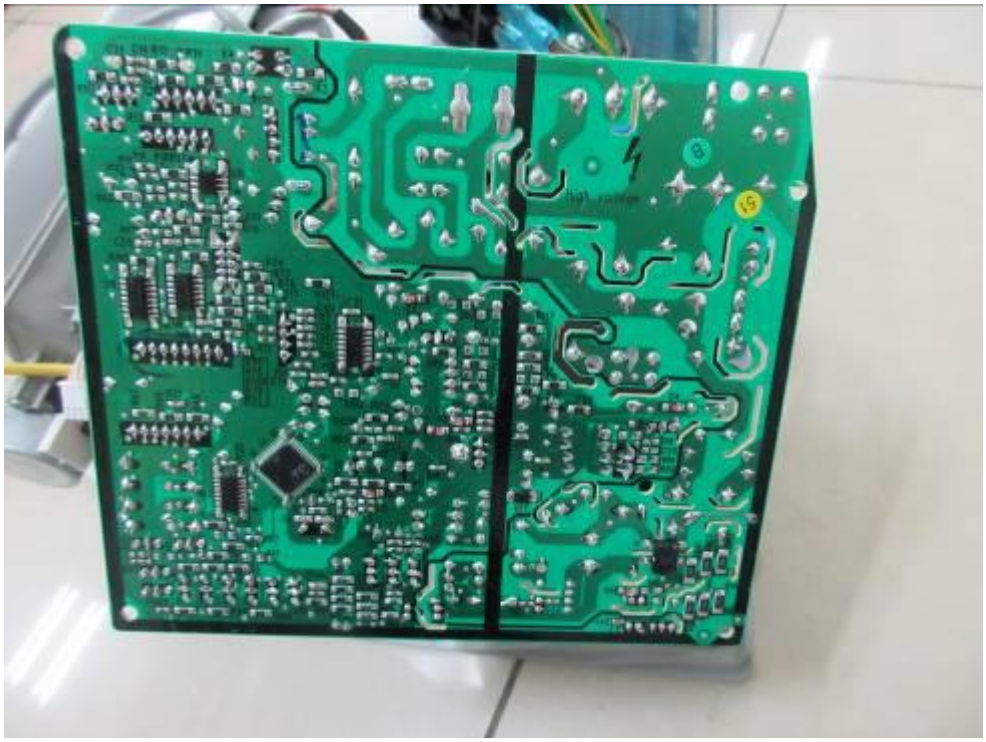

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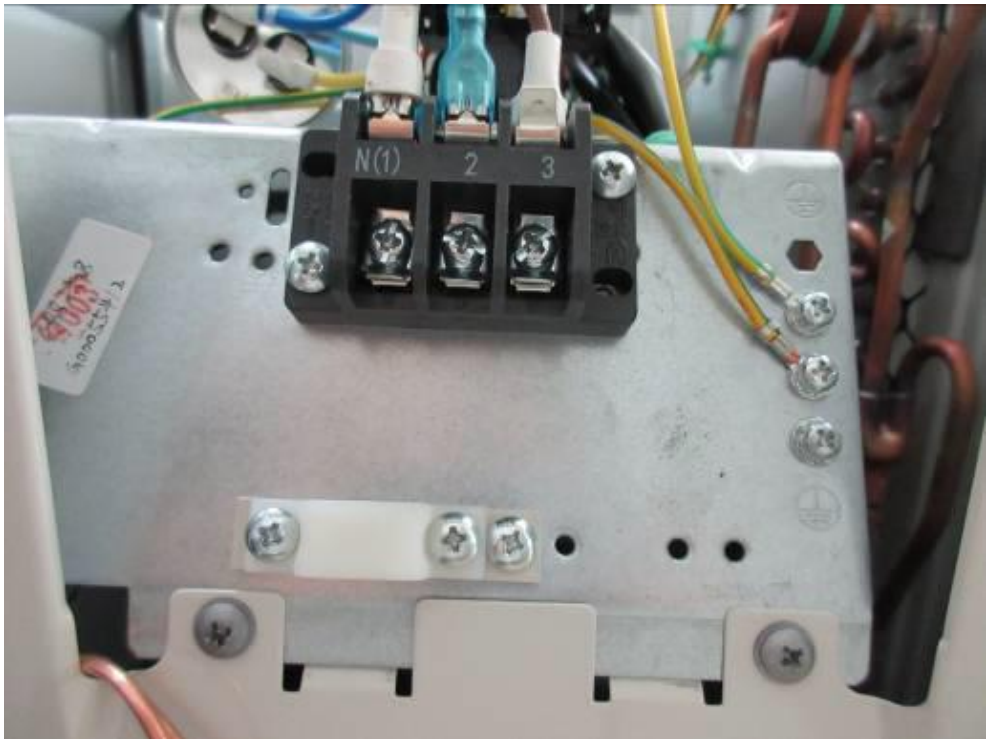

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VDMA-CTT024T03A, RDMA-CTT024T03A:

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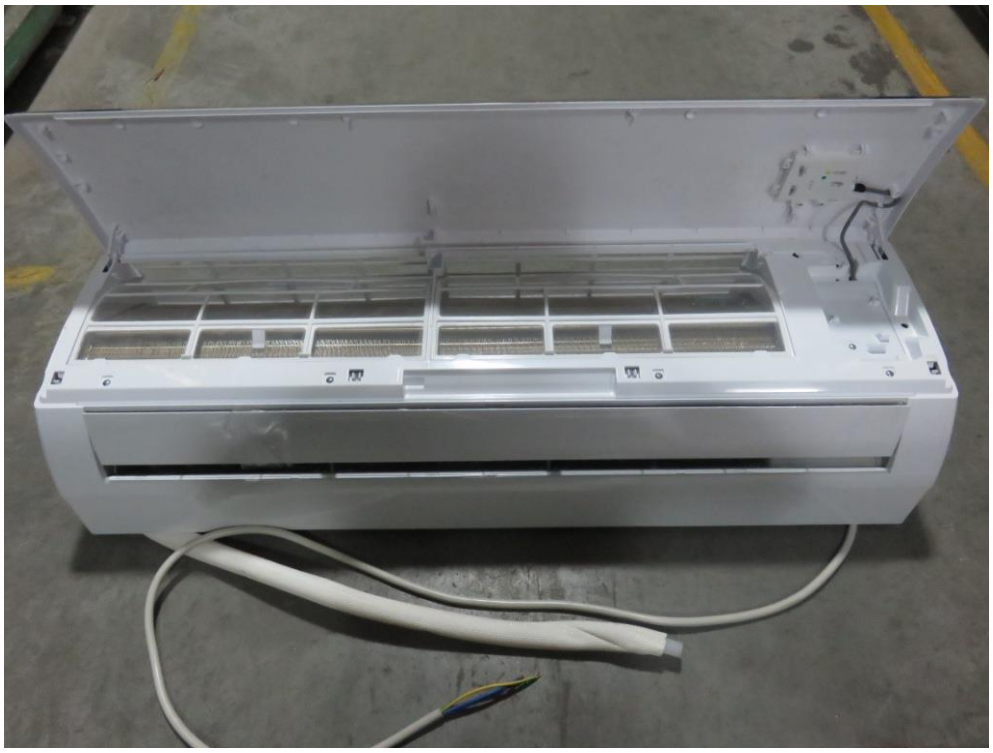

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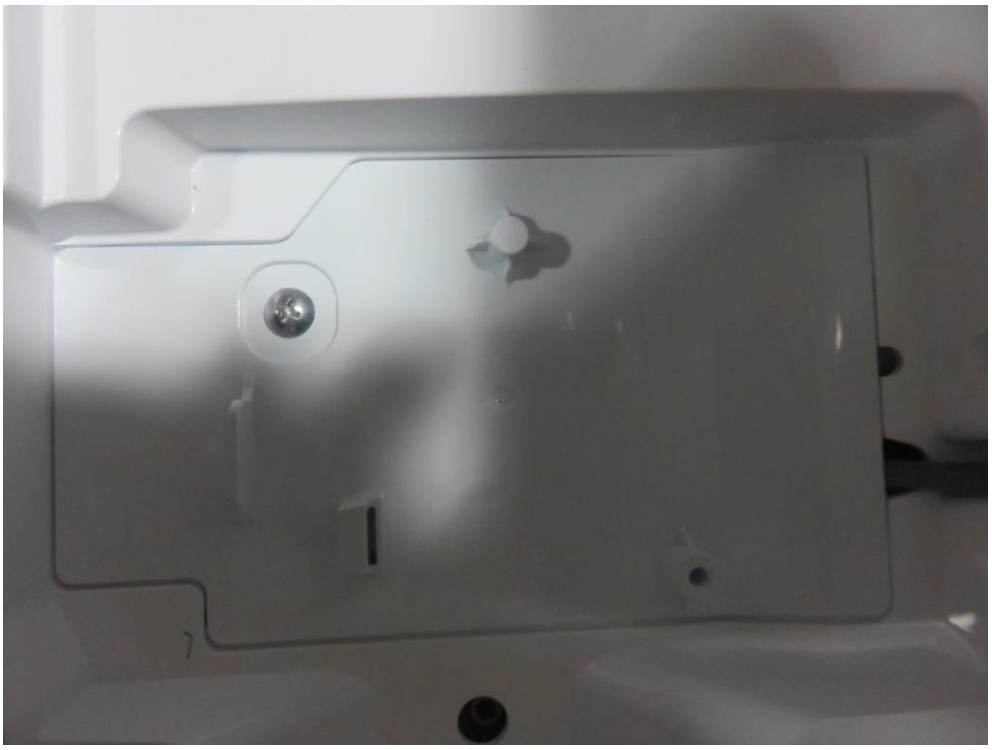

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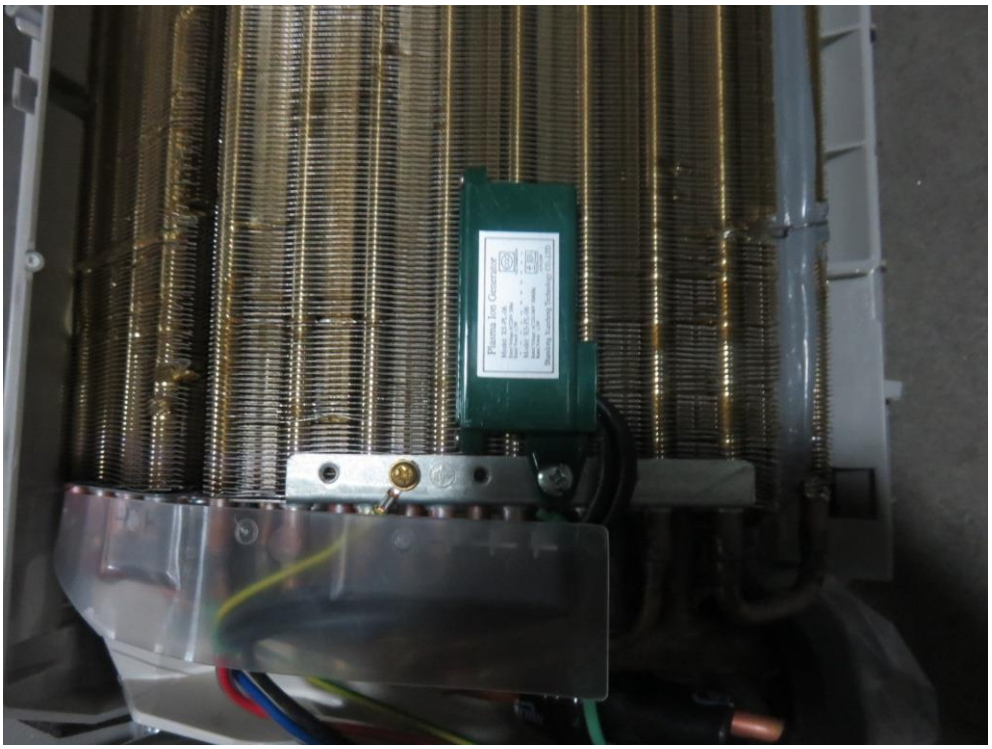

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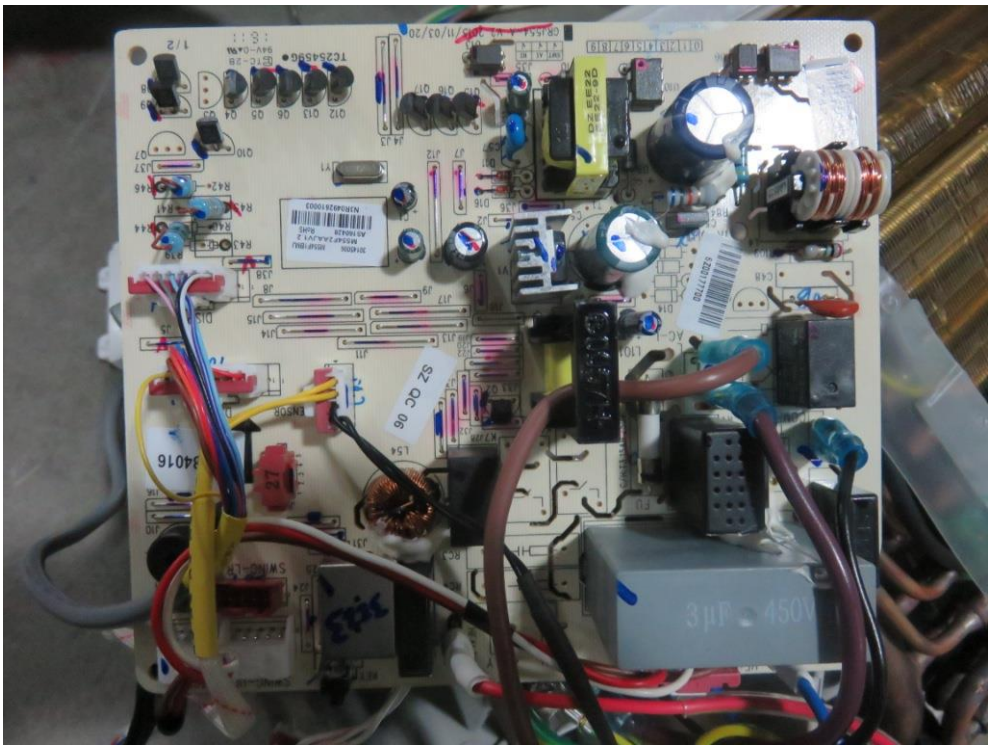

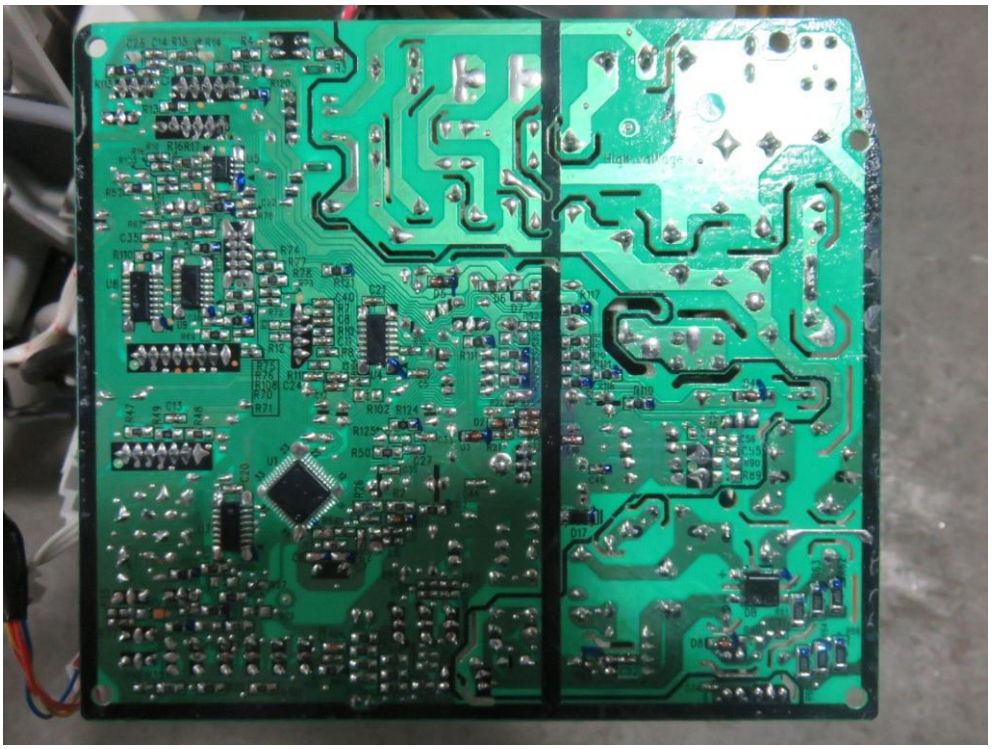

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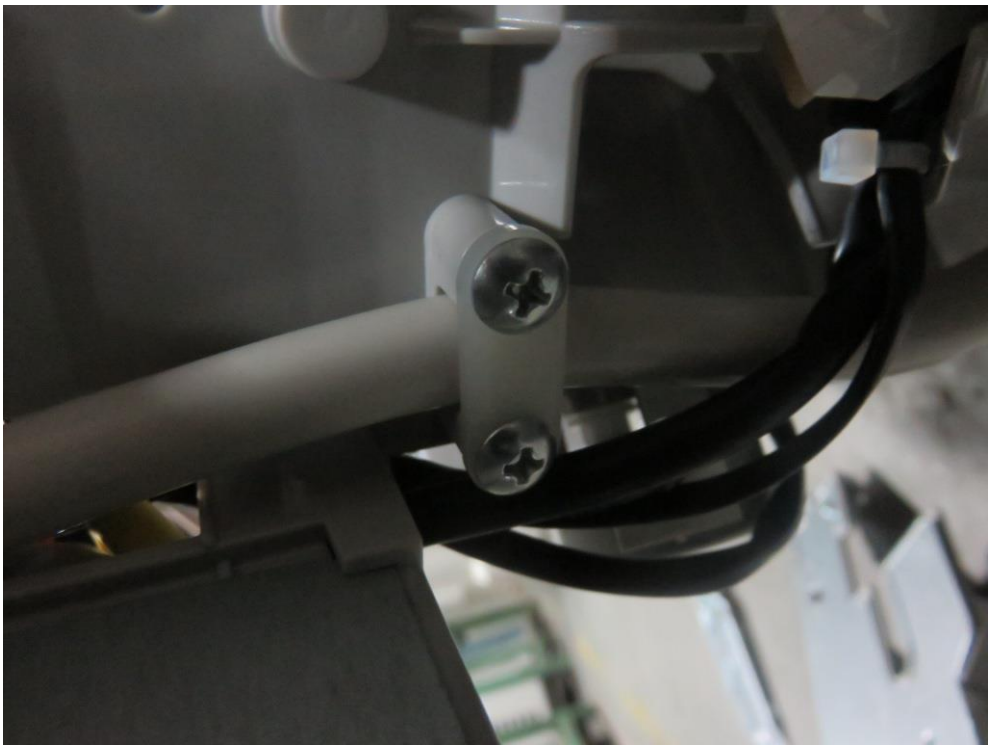

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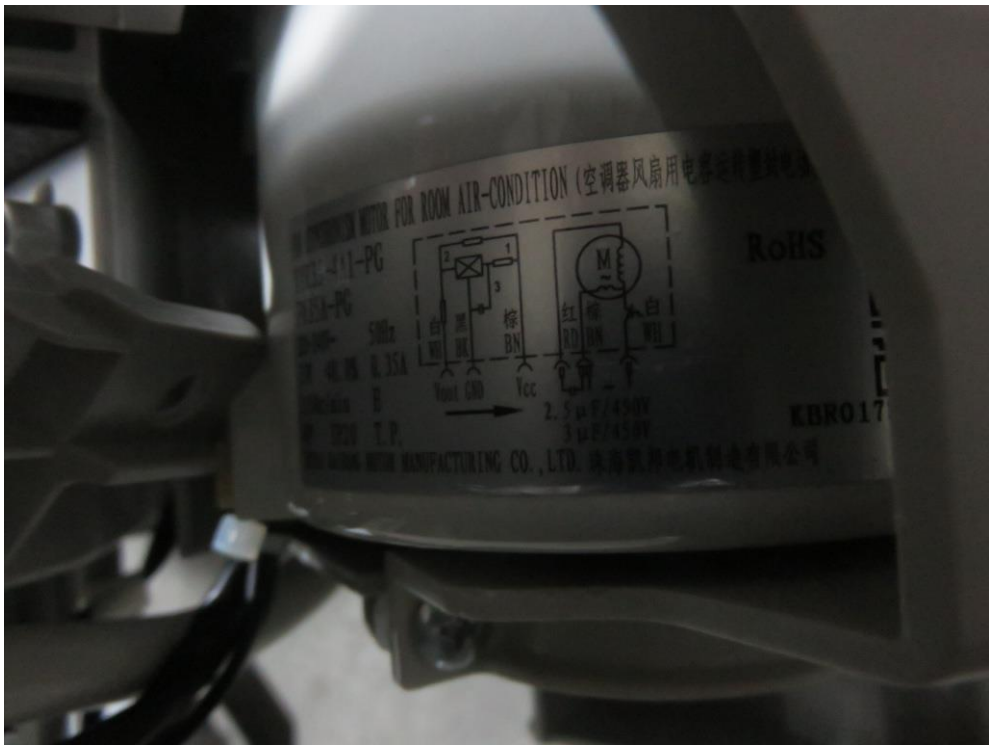

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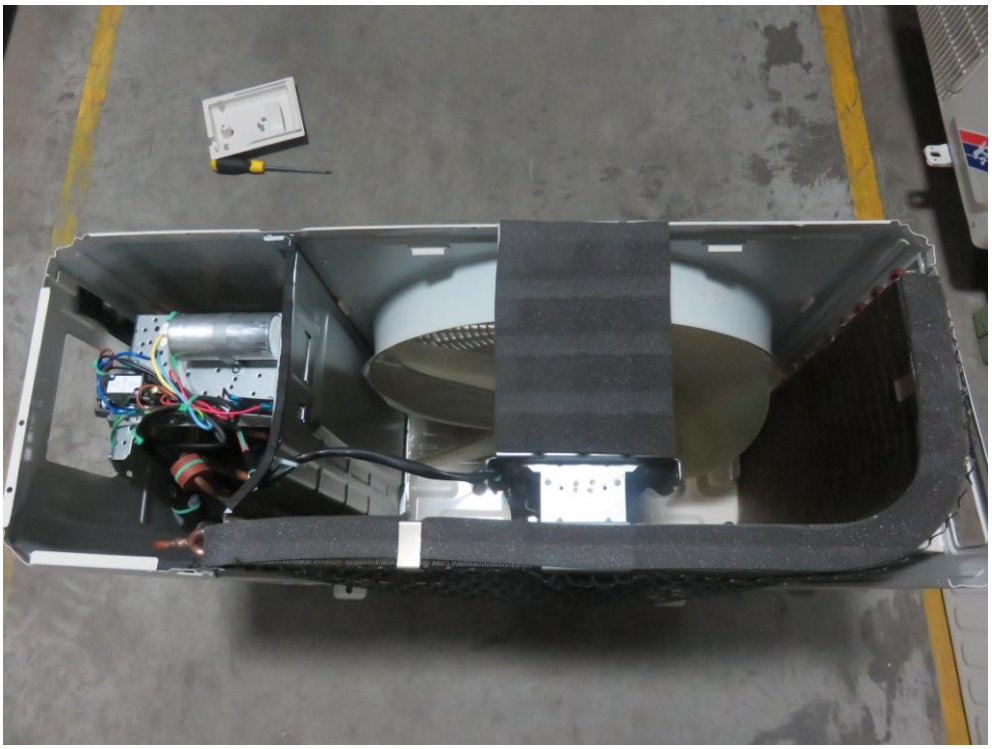

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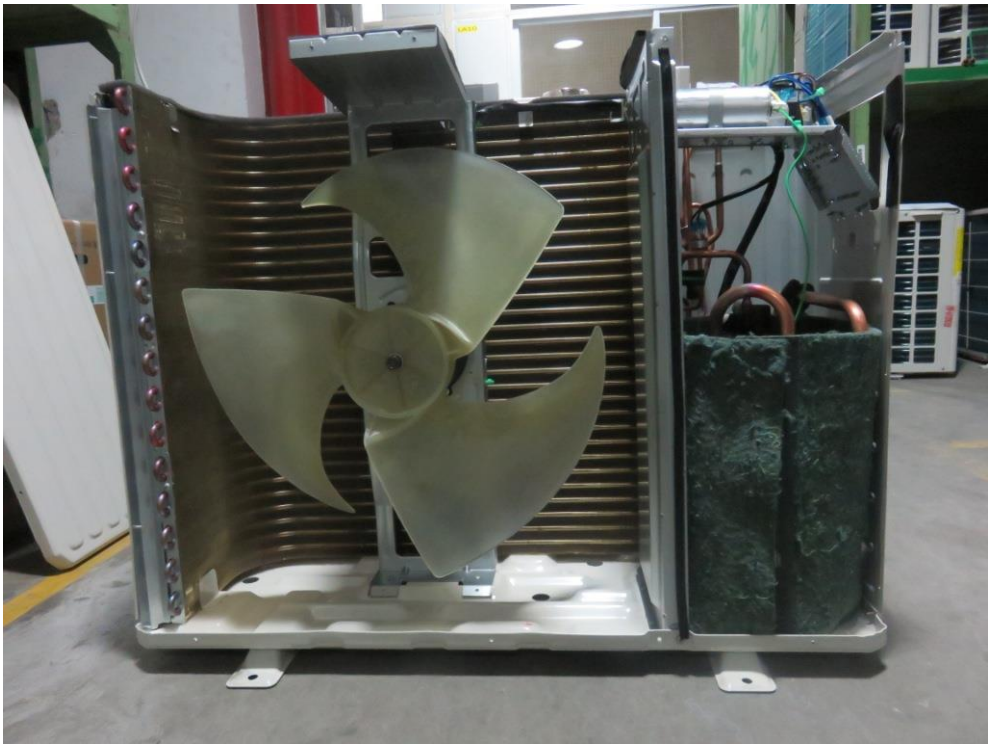

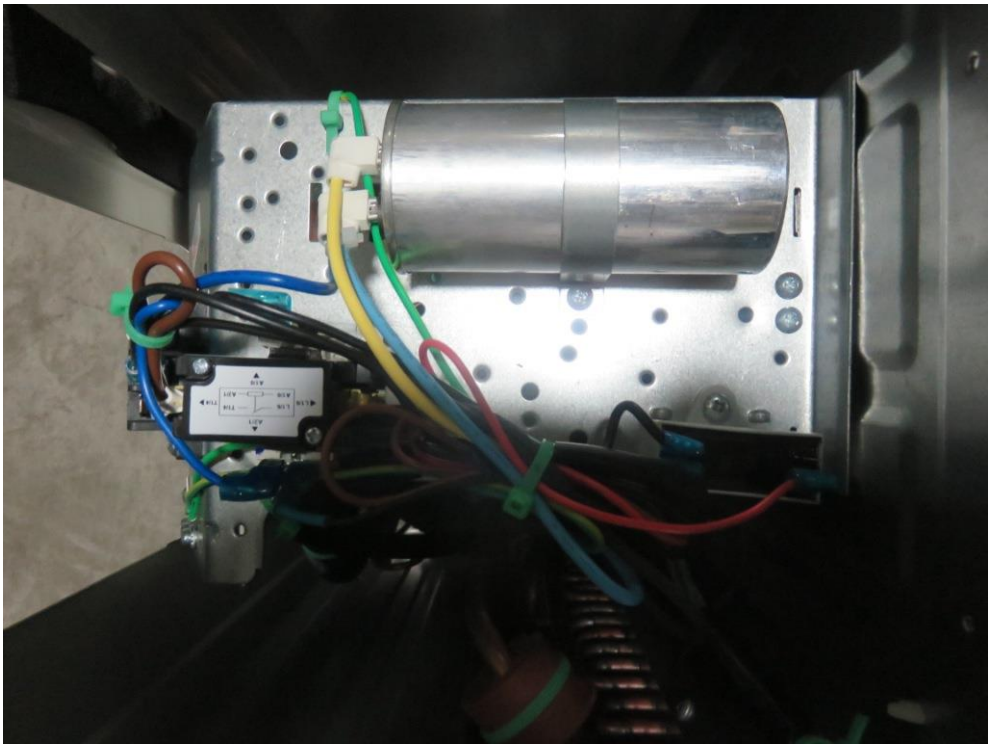

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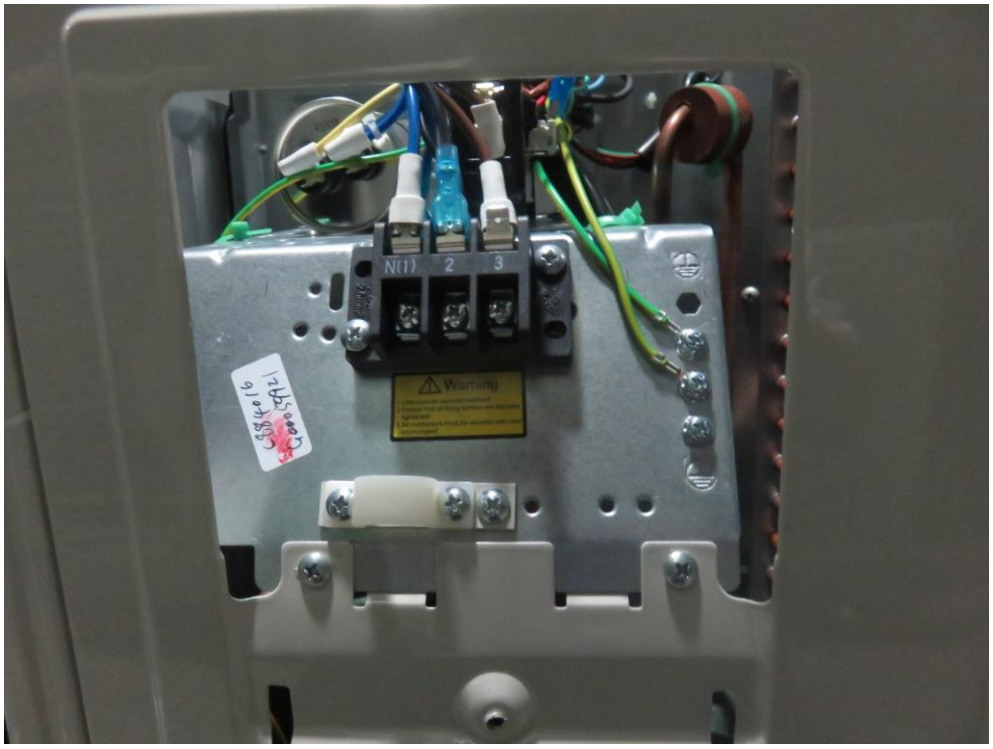
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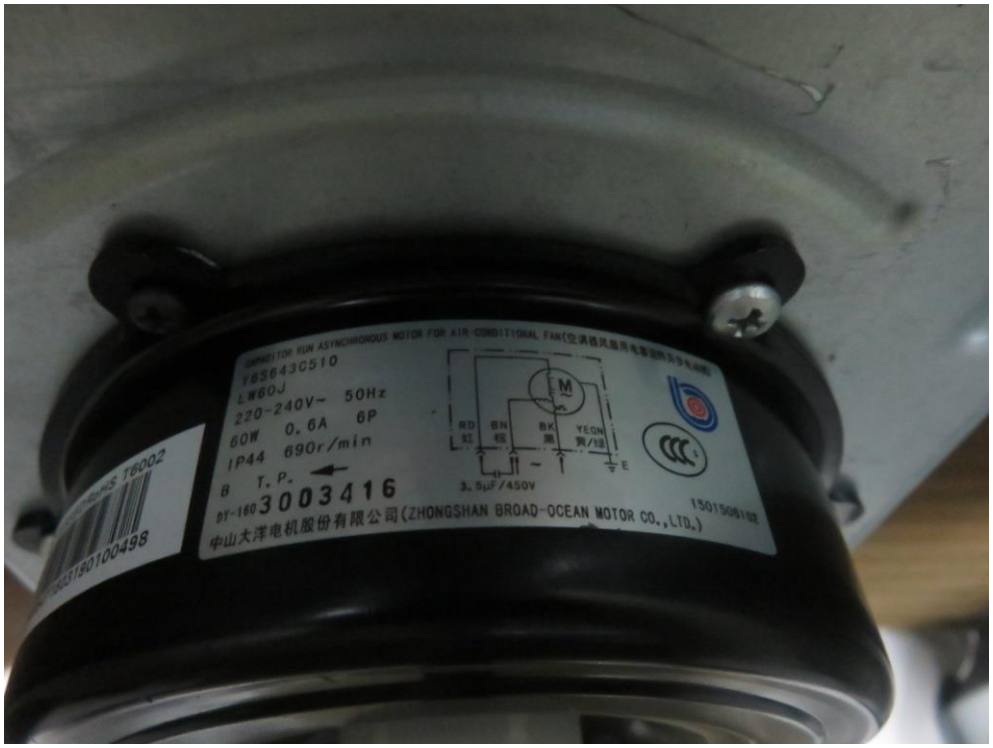
Y65643C510
LW60J
220-240V~ 50Hz
60W 0.6A 6P
IP44 690r/min
B T.P.
003416
3.5μF/450V
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VDMA-CTT028T03A, RDMA-CTT028T03A:

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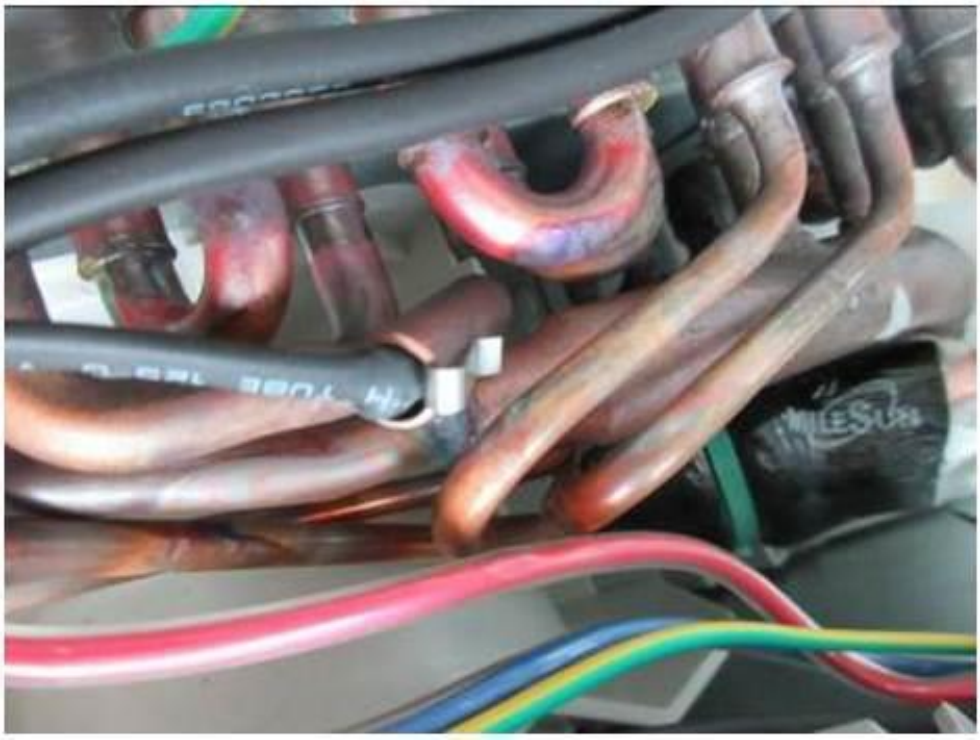

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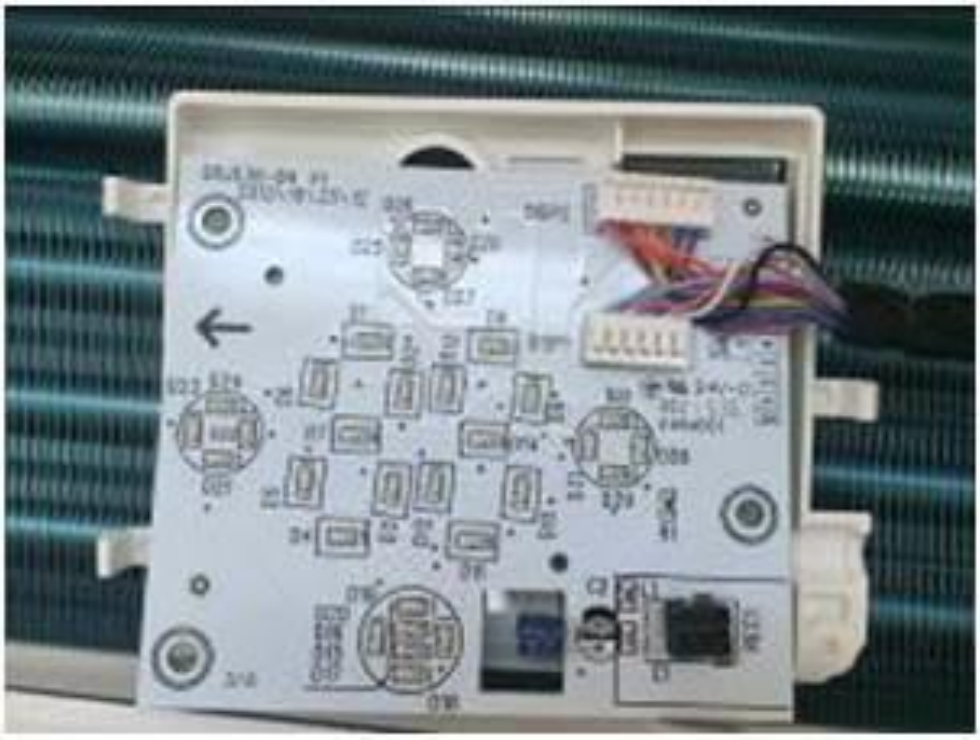

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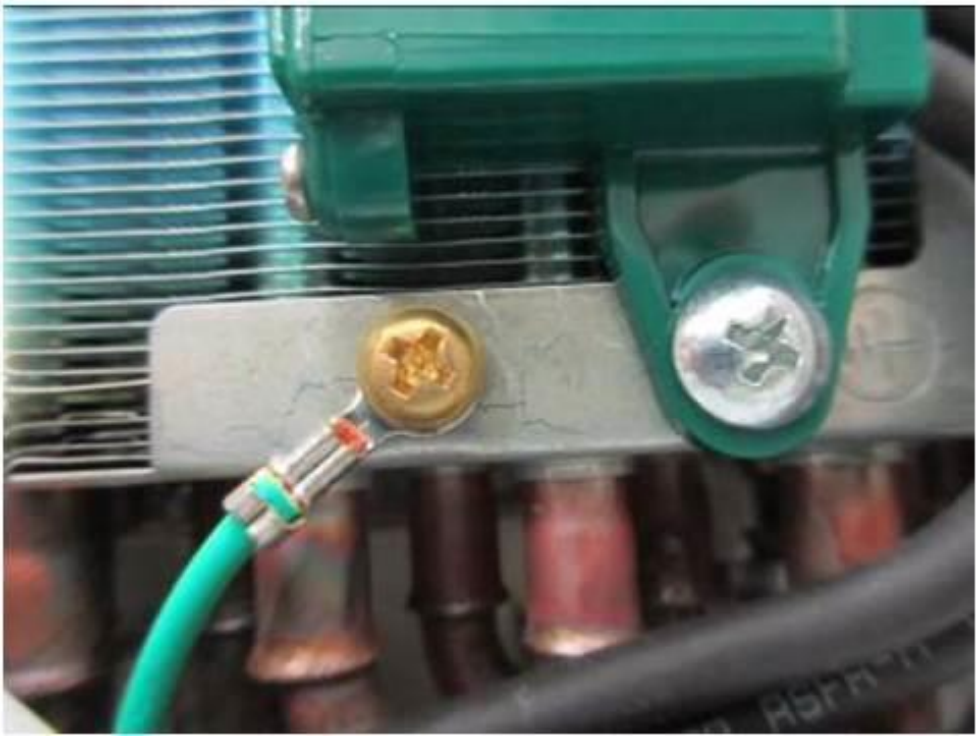

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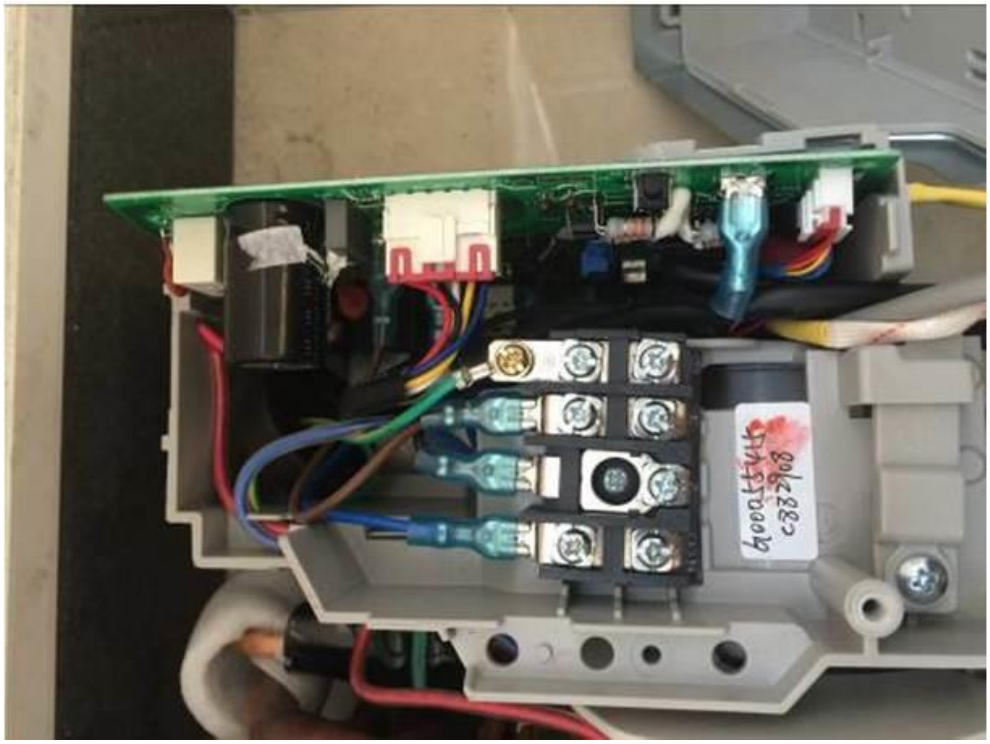

Mian board M863F1DJ

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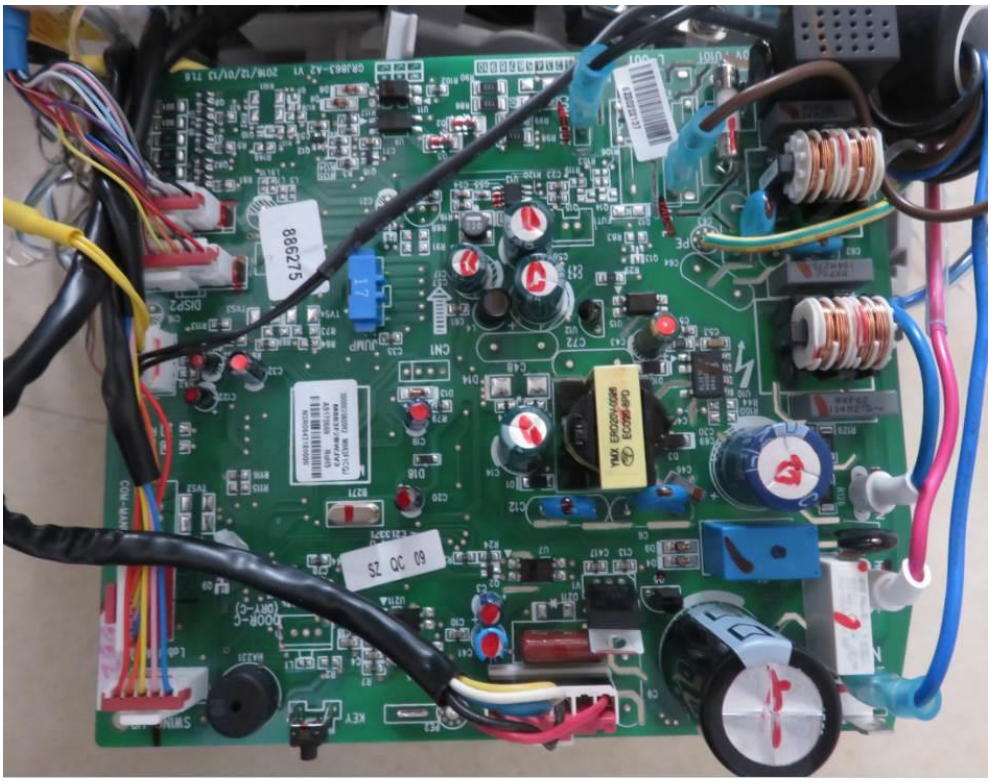
Mian board M863F1DJ



Main board M863F1CQJ

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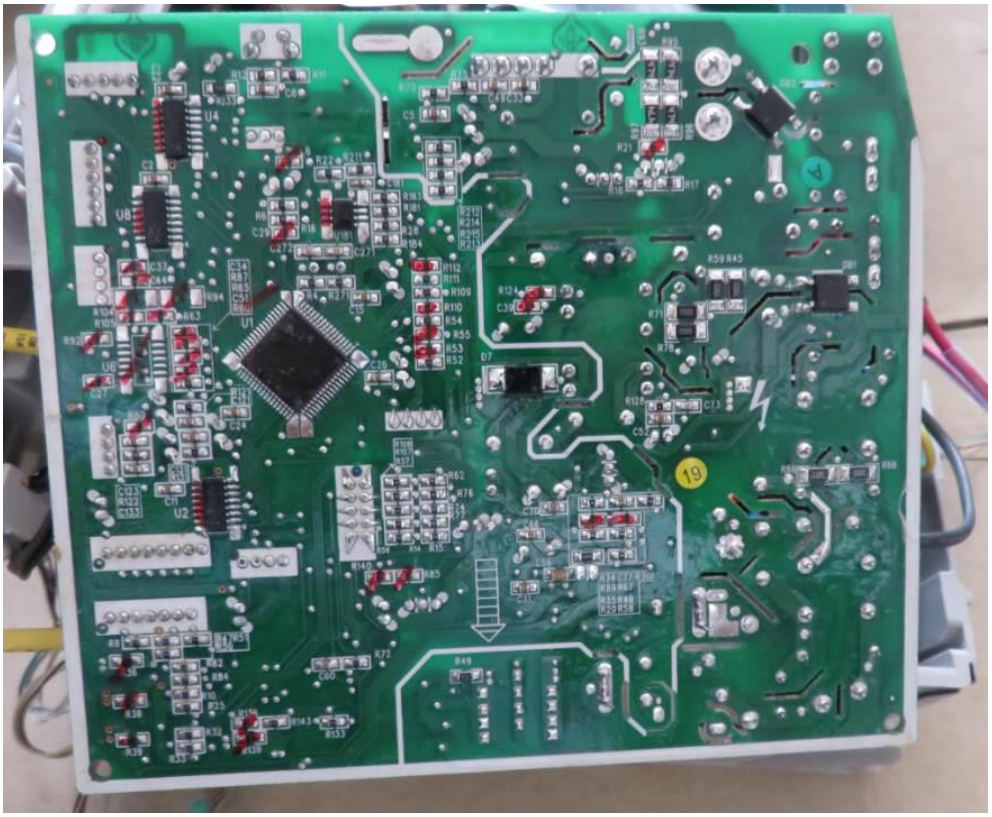

Main board M863F1CQJ

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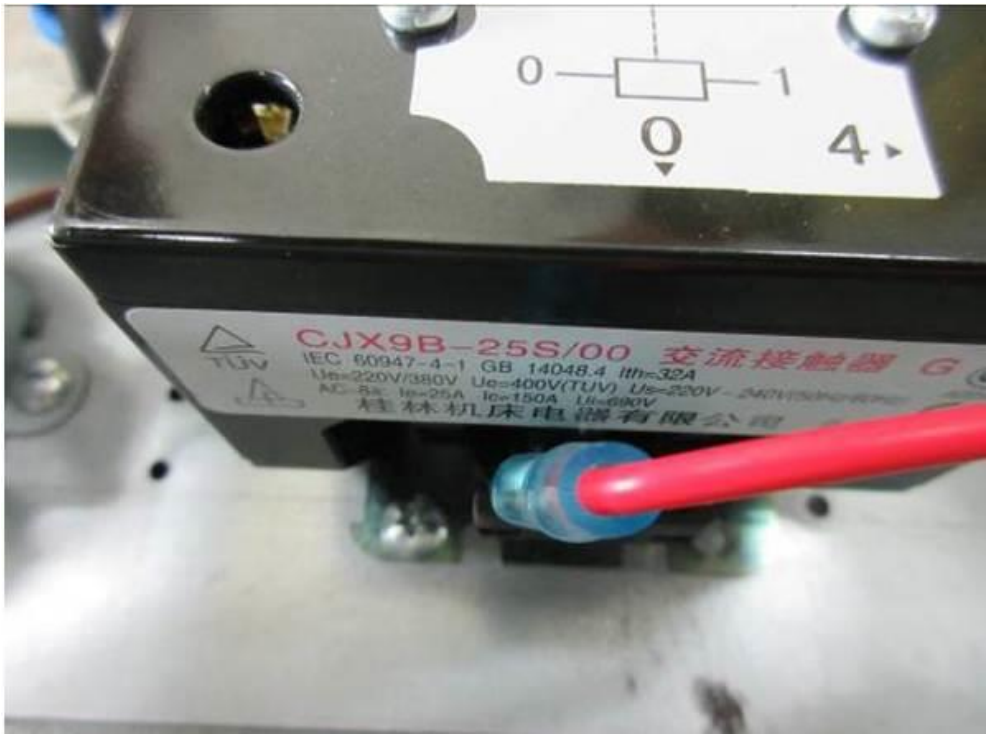

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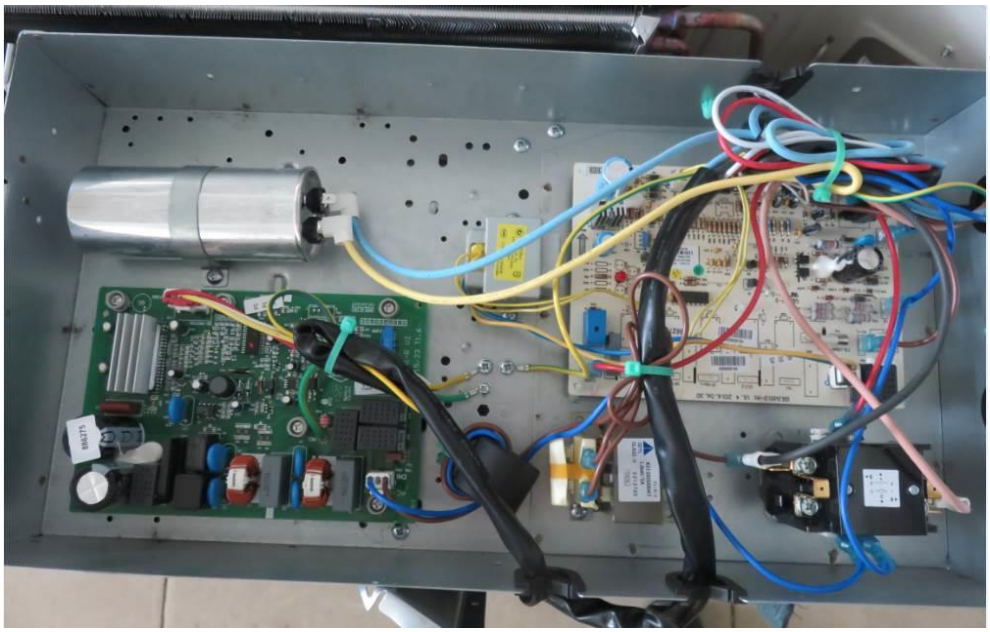
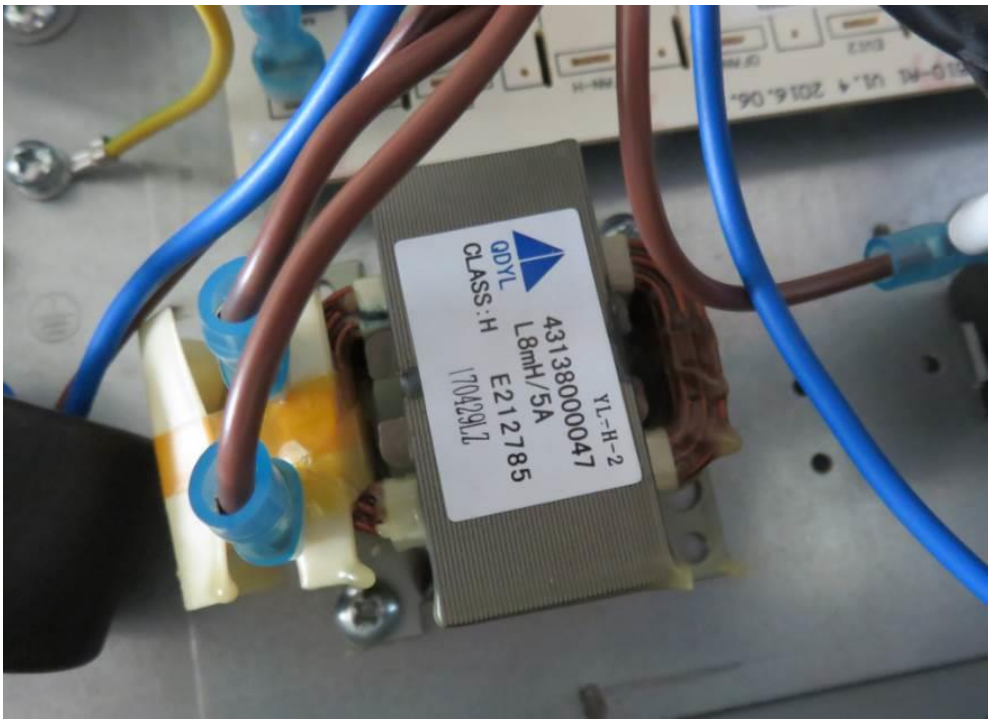
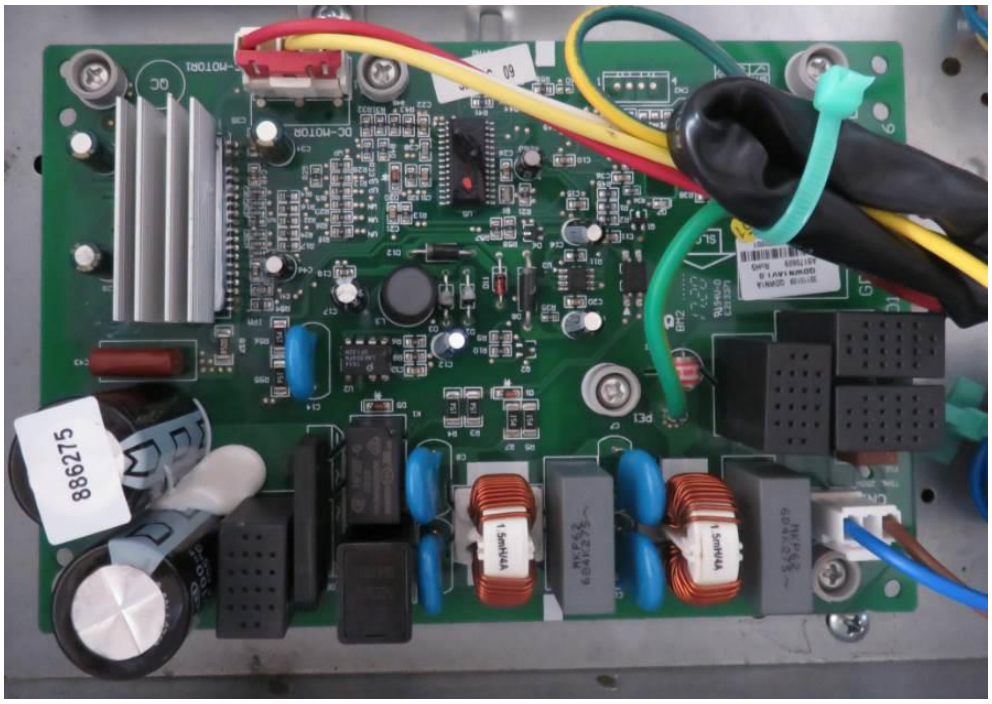
50Hz 220-240V~ R410A
LANDA COMPRESSOR CO., LTD.
样品机







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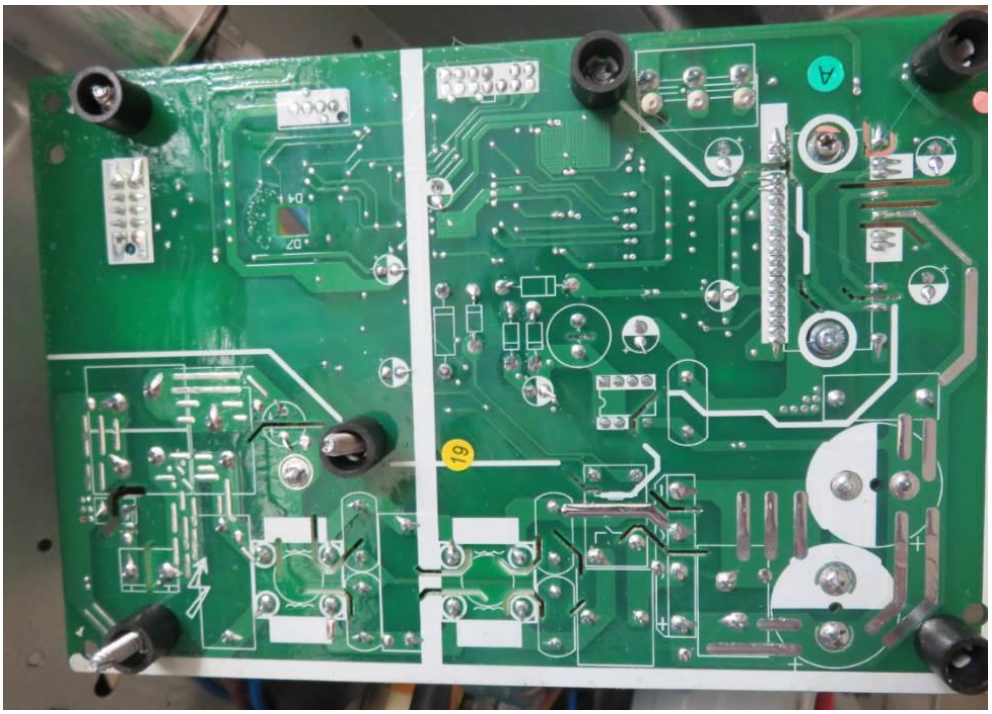

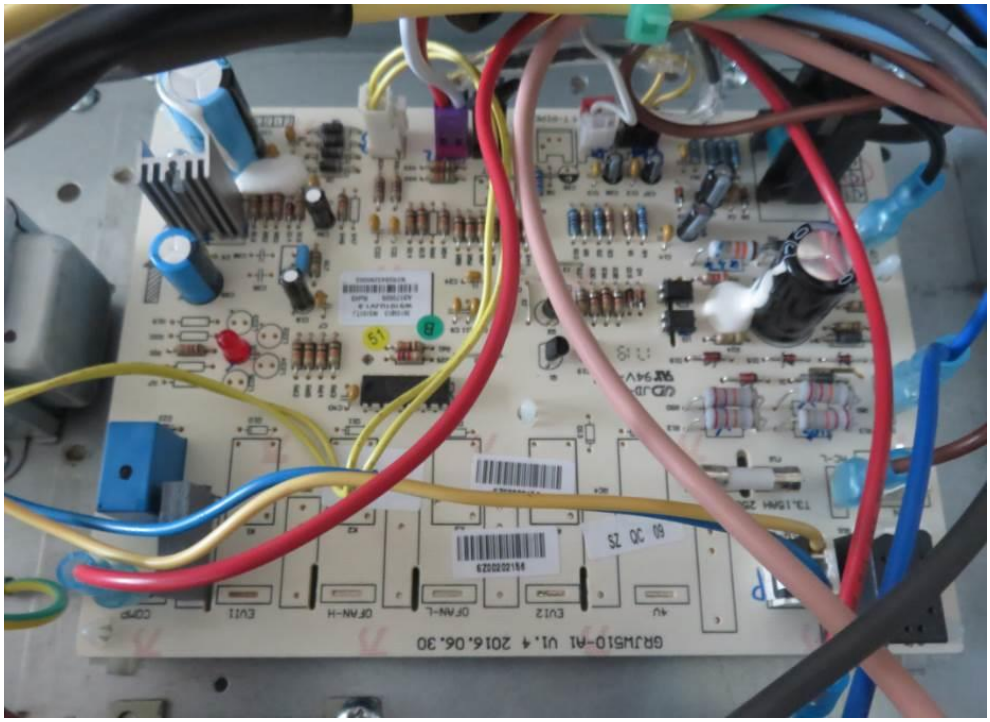

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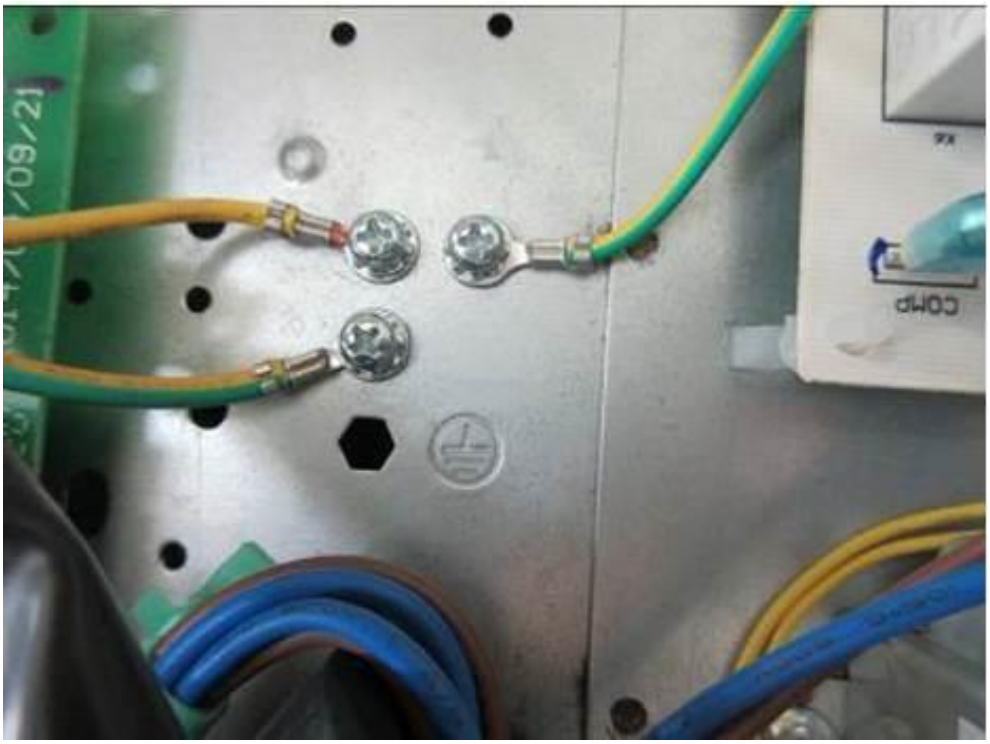

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Appendix to TRF no. IEC60335_2_40M

Appendix EMF			P
	TEST: Evaluation of the magnetic fields		
Applied standards:	IEC 62233:2005, EN 62233:2008 (incl. Corr.1:2008)		
Method	Used method: 5.5.2 Time domain evaluation		—
Applied Limit	ICNIRP Guidelines		—
Identification of the appliance	Type of apparatus	Split type air conditioner	
	Rated Voltage	220-240V	
	Rated Frequency	50	
Parameters required prior to the test	Laboratory Ambient Temperature	25 °C ± 10 °C	
	Supply Voltage	(Rated Voltage ± 2 %) V	
	Supply Frequency	(Rated Frequency ± 2 %) Hz	
Parameters recorded during the test	Laboratory Ambient Temperature	25°C	
	Supply Voltage	240V	
	Supply Frequency	50Hz	
Operating Mode	Cooling		

Method 5.5.2

Measuring Positions	Measuring Distance	Coupling Factor	Measurement Uncertainty
Around	30	----	----

Frequency (kHz)	Limit (%)	Measured Maximum Value (%)
0,01 to 400	100	1,58

Supplementary information:

The measured maximum value in this table may be weighted with the coupling factor if applicable, and the measurement uncertainty is applied if the measured result is more than 75 % of the limit.

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Appendix to TRF no. IEC60335_2_40M

IEC 60335-2-65:2002 + A1:2008 to IEC 60335-1:2010			
Clause	Requirement – Test	Result – Remark	Verdict
16	**LEAKAGE CURRENT AND ELECTRIC STRENGTH**		---
16,101	High-voltage transformers must have adequate internal insulation, The duration of the test is ,,, sec, (IEC 60335-2-65)	Certified component used: XS-PL-06	P
32	**RADIATION, TOXICITY AND SIMILAR HAZARDS**		---
	The ozone concentration produced by ionozation is not excessive and shall not exceed 5 x 10/-6 (IEC/EN 60335-2-65)	XS-PL-06: max. 0,27 x 10/-8	P

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Appendix to TRF No. IEC60335_2_40M

GCC Conformity Assessment Scheme
Low Voltage Electrical Equipment and Appliances
NATIONAL DIFFERENCES

Clause	Requirement + Test	Result - Remark	Verdict
	Label / marking with Gulf Conformity Marking		P
	Electrical equipment bears a type number, and batch or serial number or other element allowing its identification, except, where the size or nature of the electrical equipment does not allow it, the required information is provided on the packaging or in a document accompanying the electrical equipment		P
	Manufacturer and importer indicate on the electrical equipment their names, registered trade name or registered trade mark, and the postal addresses at which they can be contacted except, where it is not possible, the required information is provided on the packaging or in a document accompanying the electrical equipment		P
	Safety information and instructions for use are provided in Arabic language		P
	Rating takes into account the voltage and frequency of each Member State	☒ UAE: 230/400 V 50 Hz ☒ Bahrain: 230/400 V 50 Hz ☐ KSA: 220/380 V 60 Hz or 230/400 V 60Hz ☒ Oman: 240/415 V 50 Hz ☒ Qatar: 240/415 V 50 Hz ☒ Kuwait: 240/415 V 50 Hz ☒ Yemen: 220/380 V 50 Hz or 230/400 V 50Hz	P
	Type and shape of the plugs and socket outlets used in each Member State	☐ UAE: C/D/G ☐ Bahrain: G ☐ KSA: G ☐ Oman: C/G ☐ Qatar: D/G ☐ Kuwait: C/G ☐ Yemen: A/D/G ☐ A ☐ C ☐ D ☐ G	N/A
	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	☒ AC: T3 ☐ Refrigerating: T ☐ Fans: T ☐ Washing machines and clothes dryers: 40 °C ambient	P

----End of Report----

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