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TEST REPORT
IEC 60335-2-30
Safety of household and similar electrical appliances
Part 2: Particular requirements for room heaters

Report Number. ..... :	190900294HZH-001
Date of issue..... :	2020-04-10; Amendment 1: 2022-04-27
Total number of pages	66 pages test report(including 22 pages photographs)
Name of Testing Laboratory preparing the Report ..... :	Intertek Testing Services Shanghai Limited
Applicant's name ..... :	Ningbo Davos Electrical Appliance Co.,Ltd.
Address..... :	No.588,Jianfu Road,haiyangmiao Village, Fuhai Town, 315332 Cixi, Ningbo, P. R. China
Test specification:	
Standard ..... :	IEC 60335-2-30:2009, COR1:2014, AMD1:2016 used in conjunction with IEC 60335-1:2010, COR1:2010, COR2:2010, AMD1:2013, COR1:2014, AMD2:2016, COR1:2016
Test procedure ..... :	-
Non-standard test method ..... :	EK1 345-07, EK1 185-03
Test Report Form No. ..... :	IEC60335_2_30M
Test Report Form(s) Originator .... :	LCIE
Master TRF ..... :	Dated 2017-04

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Test item description ..... :	Convector heater
Trade Mark ..... :	NA
Manufacturer ..... :	Ningbo Davos Electrical Appliance Co.,Ltd.
Model/Type reference ..... :	GPH-**, GPH-**L, GPH-**LW, GPH-**E, GPH-**EW, GPH-**EA,GPH-**D, GPH-**DW, GPH-**DA, GPH-**C, GPH-**DWA,GPH-**F, GPH-**X, GPH-**XA, GPH-**P, GPH-**S, GPH-**R,GPH-N**X, GPH-N**R, GPH-N**H, GPH-**PA, GPH-**SA, GPH-**RA,GPH-N**XA, GPH-N**RA, GPH-N**HA (**=10, 15, 20)
Ratings ..... :	AC 230V, 50/60Hz, IP24, Class I for all models, Rated power please refer to the below table:

MODEL NO	RATED POWER
**=10	1000W
**=15	1500W
**=20	2000W

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**Testing Laboratory:**	Intertek Testing Services Shanghai Limited	
Testing location/ address.....:		Building No.86, 1198 Qinzhou Road(North), Shanghai 200233, P.R.China	
Tested by (name, function, signature).....:		Jeff Liu	Jeff Liu
Approved by (name, function, signature)...:		Allen Ding	Allen Ding
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address.....:		N/A	
Tested by (name, function, signature).....:		N/A	
Approved by (name, function, signature)...:		N/A	
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address.....:		N/A	
Tested by (name + signature).....:		N/A	
Witnessed by (name, function, signature) .:		N/A	
Approved by (name, function, signature)...:		N/A	
☐	**Testing procedure: CTF Stage 3:**	N/A	
☐	**Testing procedure: CTF Stage 4:**	N/A	
Testing location/ address.....:		N/A	
Tested by (name, function, signature).....:		N/A	
Witnessed by (name, function, signature) .:		N/A	
Approved by (name, function, signature)...:		N/A	
Supervised by (name, function, signature) :		N/A	

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

Appendix: For models incorporating WIFI module, Constructional Data Form (CDF) (15 pages)

Appendix: For other models, Constructional Data Form (CDF) (14 pages)

Summary of testing:

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

Tests performed (name of test and test clause):	**Testing location:**
Refer to the amendment summary of page 7	**Same as previous page.**

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

National difference of Germany, United Kingdom concerned.

☒ **The product fulfils the requirements of EN 60335-2-30:2009+A11:2012+A1:2020+A12:2020 used in conjunction with EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021 and EN 62233:2008**

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.

(Representative)

GPH-20DW

AC 230V 50/60Hz 2000W IP24

Ningbo Davos Electrical Appliance Co.,Ltd.
No.588,Jianfu Road,haiyangmiao Village, Fuhai Town, 315332 Cixi, Ningbo, P. R. China

WARNING: Do not cover

WARNUNG: Nicht Abdecken

(The height of the words shall be at least 3 mm)

Or

(The height of the symbol shall be at least 15 mm)

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

Test item particulars ..... :	
Classification of installation and use ..... :	Portable and Wall-mounting indoor use
Supply Connection ..... :	Type Y
..... :	
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.....:	2021-09-22
Date (s) of performance of tests .....:	2021-09-22 to 2022-04-22

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.

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

PAH test according to AfPS GS 2019:01 PAK is considered and passed, please refer to PAH test report 190900294HZH-001-PAH, 190900294HZH-001-PAH+A1 for detail.

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) .....:	Ningbo Davos Electrical Appliance Co.,Ltd. No.588,Jianfu Road,haiyangmiao Village, Fuhai Town, 315332 Cixi, Ningbo, P. R. China

General product information:

The appliances covered in this report are convector heaters, For all models, they are similar except different rating and different dimension.
See below description for model similarity:

Model name	Adjustable thermostat	LED Display	LCD Display	WIFI Module	Number of self-resetting thermal cut-out	Back metal enclosure
GPH-**	X				There are 1 self-resetting thermal cut-out for the models with 1000W，2 self-resetting thermal cut-out for the models with 1500W and 2000W	A
GPH-**L			X			
GPH-**LW			X			
GPH-**E		X				
GPH-**EW		X				
GPH-**EA		X		X		
GPH-**D		X				
GPH-**DW		X				
GPH-**DA		X		X		
GPH-**C	X					
GPH-**DWA		X		X		
GPH-**F		X				
GPH-**X		X				
GPH-**XA		X		X		
GPH-**P		X				
GPH-**PA		X		X		
GPH-**S		X				
GPH-**SA		X		X		
GPH-**R		X				
GPH-**RA		X		X		
GPH-N**X		X			1	B
GPH-N**XA		X		X		
GPH-N**R		X				
GPH-N**RA		X		X		
GPH-N**H			X			
GPH-N**HA			X	X		

Remark:
1. "X" means the product incorporate this component.
2. There are 2 kinds of metal back enclosure，A or B.
3. The front glass enclosure of GPH-**C is different with other models, they arc-shaped glass enclosure.

Tests are performed on all models, only the most unfavourable results are recorded.

Amendment 1:

The original test report ref. No. 190900294HZH-001, dated on 2020-04-10, was modified on 2022-04-27 to including the following change:

1. Updated the standard from EN 60335-2-30:2009+ A11:2012 to EN 60335-2-30:2009+A11:2012+ A1:2020+ A12:2020, EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019 to EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019+A15:2021
2. Added new models: GPH-**P, GPH-**S, GPH-**R,GPH-N**X, GPH-N**R, GPH-N**H, GPH-**PA, GPH-**SA, GPH-**RA,GPH-N**XA, GPH-N**RA, GPH-N**HA series, detail please refer to General product information.
3. Added critical components for alternative PCB assembly and added alternative plug, supply cord, internal wires, varistor, fuse for PCB, revised the min. thickness of PCB and Glass panel, added WIFI module.
4. Revised the address of applicant and factory.
5. Added UKCA.
6. PAH updated.

After review, based on the difference with previous test data, only following tests were conducted.

Clause concerned: Cl7, Cl10, Cl11, Cl15, Cl13, Cl16, Cl19, Cl20, Cl22, Cl23, Cl24, Cl29, Cl30, EMF
Table Concerned: Table 10.1, 11.8, 13.2, 13.3, 16.2, 16.3, 19, 19.13, 24.1, 29.1, 29.2, 30.1, 30.2

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

7	**MARKING AND INSTRUCTIONS**		
7.12	Instructions for safe use provided		P
	Details concerning precautions during user maintenance		P
	-Statements for portable heaters : (IEC 60335-2-30)		
	• Do not use this heater in the immediate surroundings of a bath, a shower or a swimming pool		P
	• Do not use this heater if it has been dropped;		P
	• Do not use if there are visible signs of damage to the heater;		P
	• Use this heater on a horizontal and stable surface, or fix it to the wall, as applicable.		P
	The instructions for portable heaters shall include the substance of the following. (IEC 60335-2-30)		
	WARNING: Do not use this heater in small rooms when they are occupied by persons not capable of leaving the room on their own, unless constant supervision is provided.		P
	WARNING: To reduce the risk of fire, keep textiles, curtains, or any other flammable material a minimum distance of 1 m from the air outlet.		P
7.13	Instructions and other texts in an official language	German and English	P
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
11	**HEATING**		
11.1	No excessive temperatures in normal use		P
11.2	Placing and mounting of appliance (IEC 60335-2-30)		
11.3	Temperature rises, other than of windings, determined by thermocouples		P
11.4	Heating appliances operated under normal operation at 1.15 times rated power input (W) .....:	(see appended table)	P
11.5	Motor-operated appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V) .....:		N/A
11.6	Combined appliances are operated as heating appliances .... (IEC 60335-2-30)		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
11.7	Operation until steady conditions established (IEC 60335-2-30)		P
11.8	Temperature rises monitored continuously and not exceeding the values in table 3 .....:	(see appended table)	P
	Temperature rise of surfaces shall not exceed the values in table 101 (IEC 60335-2-30)	(see appended table)	P
13	**LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE**		
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1.15 times the rated power input (W).....:	(See appended table)	P
13.2	The leakage current is measured by means of the circuit described in Figure 4 of IEC 60990:1999		P
	For class 0I appliances and class I appliances, except parts of class II construction, C may be replaced by a low impedance ammeter		P
	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
15	**MOISTURE RESISTANCE**		
15.3	Appliances proof against humid conditions		P
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78		P
	Detachable parts removed and subjected, if necessary, to the humidity test with the main part		N/A
	Humidity test for 48 h in a humidity cabinet		P
	Reassembly of those parts that may have been removed		N/A
	The appliance withstands the tests of clause 16	23 ºC, 93% R.H.	P
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

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
16.2	Single-phase appliances: test voltage 1.06 times rated voltage (V) .....:	243,8V	P
	Three-phase appliances: test voltage 1.06 times rated voltage divided by √3 (V) .....:		N/A
	Leakage current measurements .....:	(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
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 .....:	No fire, no hazards.	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
	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	Fuse as weak part	P
	Heaters compliance is checked by the tests of Cl. 19.5, 19.6, 19.11, 19.12, 19.101 to 19.115, as applicable (IEC 60335-2-30)		P

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
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
	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		P
	During and after each test the following is checked:		
	- the appliance complies with the conditions specified in 19.13		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	No fire, no hazards.	P
	b) open circuit at the terminals of any component	No fire, no hazards.	P
	c) short circuit of capacitors, unless	No fire, no hazards.	P
	they comply with IEC 60384-14		P
	d) short circuit of any two terminals of an electronic component, other than integrated circuits	No fire, no hazards.	P
	f) failure of microprocessors and integrated circuits	No fire, no hazards.	P
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or		P
	a device that can be placed in the stand-by mode,		P
	subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode		P
	Surge protective devices disconnected, unless		P
	They incorporate spark gaps		N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4		P
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, at frequency ranges specified		P
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified		P

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified		P
	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode		P
	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling		P
	Earthed heating elements in class I appliances disconnected		P
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3		P
19.11.4.6	Appliances having a rated current not exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-11		P
	Appliances having a rated current exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-34		P
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2		P
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation. After 60s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate		P
	The appliance continues to operate normally, or		P
	requires a manual operation to restart		N/A
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9 .....:	(see appended table)	P
	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 V	P
	- supplementary insulation (V) .....:	1750 V	P
	- reinforced insulation (V) .....:	3000 V	P

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
	After operation or interruption of a control, clearances and creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage		P
	The appliance does not undergo a dangerous malfunction, and		P
	Appliances tested with an electronic switch in the off position, or in the stand-by mode:		P
	- do not become operational, or		P
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4		P
19.101	Heaters operated at 1.24 times rated power input, all thermal controls operated during the test of Cl. 11 short-circuited simultaneously (IEC 60335-2-30)	(see appended table)	P
19.102	Circular and similar portable heaters which emit heat in several directions are placed as close as possible to one of the walls of the test corner at 1.24 times rated power input (IEC 60335-2-30)	(see appended table)	P
19.103	Tests specified for heaters, other than (IEC 60335-2-30)		P
	Heaters operated as specified in Cl. 11 but covered with felt strips (IEC 60335-2-30)		P
	The temperature rise of the strips not exceeds 150 K .An over-shoot of 25K is allowed during the first hour .....(IEC 60335-2-30)	(See appended table)	P
19.112	Portable heaters, tests specified in Cl. 11 but overturned position on a soft wood surface covered with felt having the same specific mass and thickness as specified in 19.103 but without any textile material.. The felt or the wood surface shall not smoulder or ignite (IEC 60335-2-30)	(See appended table)	P
	The maximum temperature rise of the felt shall not exceed 150K but an over-shoot of 25 K is allowed during the first hour. (IEC 60335-2-30)		P
20	**STABILITY AND MECHANICAL HAZARDS**		
20.1	Heaters shall have adequate stability. This requirement does not apply to fixed heaters. (IEC 60335-2-30)		P
	Appliances placed: (IEC 60335-2-30)		

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
	- most unfavourable normal position of use on a inclined plane of 15 °. The heater shall not overturn (IEC 60335-2-30)		P
	- on a horizontal plane with 5 N applied to the top. The heater shall not overturn (IEC 60335-2-30)		P
22	**CONSTRUCTION**		
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance equal to or greater than 0,1μF, the appliance being disconnected from the supply at the instant of voltage peak		P
	Voltage not exceeding 34 V (V) .....:	Max 7V	P
23	**INTERNAL WIRING**		
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use		P
	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,		P
	A single layer of internal wiring insulation does not provide reinforced insulation		P
24	**COMPONENTS**		
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components .....:	(see appended table)	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	Certified	P
24.1.4	Automatic controls comply with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least:		
	- self-resetting thermal cut-outs (IEC 60335-2-30) 10 000	Certified	P
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance		P

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
	They are also tested in accordance with Clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance.....:	Certified	P
29	**CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION**		
	Clearances, creepage distances and solid insulation withstand electrical stress		P
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless .....:	(see appended table)	P
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	The end of heating element	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
29.1.4	Clearances for functional insulation are the largest values determined from:		
	- table 16 based on the rated impulse voltage .....:	(see appended table)	P
	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless		P
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		P
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	The end of heating element	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

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
	In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system		P
29.2.1	Creepage distances of basic insulation not less than specified in table 17.....:	(see appended table)	P
	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 .....:		P
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or .....:	(see appended table)	P
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or .....:	(see appended table)	P
29.2.4	Creepage distances of functional insulation not less than specified in table 18.....:	(see appended table)	P
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited		P
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
	Parts supporting live parts tested at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C).....:	(see appended table)	P
30.2	Parts of non-metallic material resistant to ignition and spread of fire		P
30.2.1	The Glow-wire test is carried out on enclosures at a temperature of 650°C (IEC 60335-2-30)	(see appended table 30.2)	P
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2		P

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
	The tests are not applicable to conditions as specified .....:		N/A
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		P
30.2.3.2	Parts of non-metallic material supporting connections, and		P
	parts of non-metallic material within a distance of 3mm,		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
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of Annex E	PCB	P
	Test not applicable to conditions as specified.....:		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT **IEC 60335-2-30** **EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES** (PART 2: PARTICULAR REQUIREMENTS FOR ROOM HEATERS)			
Differences according to ..... :	EN 60335-2-30:2009 +A11:2012 + A1:2020 + A12:2020 used in conjunction with EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+ A14:2019+ A15:2021 EN 62233:2008 + AC:2008		
TRF template used ..... **:**	IECEE OD-2020-F2:2020, Ed. 1.1		
Attachment Form No. ..... :	EU_GD_IEC60335_2_30R		
Attachment Originator ..... :	LCIE		
Master Attachment..... :	Dated 2021-04-19		
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	CENELEC COMMON MODIFICATIONS (EN)		
6.1	Delete “class 0” and “class 01”		NA
7.1	Single-phase appliances to be connected to the supply mains: 230 V covered		P
	Multi-phase appliances to be connected to the supply mains: 400 V covered		N/A
7.12	The instructions include the substance of the following:		
	- this appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved		P
	- children shall not play with the appliance		P
	- cleaning and user maintenance shall not be made by children without supervision		P
	The instructions shall include the substance of the following: (EN 60335-2-30)		

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Children of less than 3 years should be kept away unless continuously supervised.		P
	- children shall not play with the appliance		P
	- cleaning and user maintenance shall not be made by children without supervision		P
	Children aged from 3 years and less than 8 years shall only switch on/off the appliance provided that it has been placed or installed in its intended normal operating position and they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children aged from 3 years and less than 8 years shall not plug in, regulate and clean the appliance or perform user maintenance		P
	CAUTION — Some parts of this product can become very hot and cause burns. Particular attention has to be given where children and vulnerable people are present.		P
7.12.Z1	The specific instructions related to the safe operation of this appliance (as given in 7.12 of this standard) shall be collated together in the front section of the user instructions. The height of the characters, measured on the capital letters, shall be at least 3 mm. These instructions shall also be available in an alternative format, e.g. on a website		P
8.1.1	Also test probe 18 of EN 61032 is applied		P
	The appliance being in every possible position during the test, except that		P
	appliances normally used on the floor and having a mass exceeding 40 kg are not tilted		N/A
	The force on the probe in the straight position is increased to 10 N when probe 18 is used		P
	When using test probe 18 the appliance is fully assembled as in normal use without any parts removed, and		P
	parts intended to be removed for user maintenance are also not removed		P

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.3	Instead of test probe B, test probe 18 and test probe 13, for appliances other than those of class II, test probe 41 of IEC 61032 is applied with a force not exceeding 1 N to live parts of visibly glowing heating elements, all poles of which can be disconnected by a single switching action		N/A
8.2	Compliance is checked by applying the test probes of EN 61032		P
	For built-in appliances and fixed appliances, the test probe B and probe 18 of EN 61032 are applied only after installation		P
11.8	The temperature rise of surfaces of heaters shall not exceed the values shown in Table 101..... .....(EN 60335-2-30)		P
11.Z101	For the measurement of temperature rises the instructions from the manufacturer on where the appliance has to be situated during normal operations have to be followed. ....(EN 60335-2-30)		P
15.1.2	Appliances with an automatic cord reel tested with the cord in the most unfavourable position so that the reeling of the wet cord may affect electrical insulation during operation, the cord not being dried before reeling		N/A
20.2	Parts that are intended to be removed only for user maintenance are not removed. ....(EN 60335-2-30)		N/A
	For appliances having dangerous moving parts, due to their working function, e.g. the needle of a sewing machine, tools of kitchen machines or the blade of an electrical knife, full protection is not possible for performing their intended use		N/A
	When using the test probe similar to test probe B with a circular stop face, the accessories and detachable covers are removed		N/A
	Test probe 18 applied with a force of 2,5N on the appliance fully assembled		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
22.12	Other parts intended to be detached during use, maintenance or cleaning (e.g. batteries, battery covers, lids, attachments, steam nozzles) are not considered as parts providing a similar function as handles, knobs, grips, levers		N/A
22.17	The requirement is not applicable to built-in appliances		N/A
22.Z101	Stationary appliances part or all of the body of which are positioned at a height below 850 mm from the floor and portable appliances that can be used on the floor shall not have accessible openings with a minor dimension exceeding 5,5mm. .....(EN 60335-2-30)		P
24.1	The requirements of Clause 29 of this standard apply between live parts of components and accessible parts of the appliance		P
	Components may comply with the requirements for clearances and creepage distances for functional insulation as specified in the relevant component standard		P
	The requirements of 30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections inside components		P
	Components that have not been tested and shown to comply with the EN standard for the relevant component are tested according to the requirements of 30.2 of this standard		P
	The requirements of Clause 29 of this standard apply between live parts of components and accessible parts of the appliance		P
	Components may comply with the requirements for clearances and creepage distances for functional insulation as specified in the relevant component standard		P
	The requirements of 30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections inside components		P

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Components that have not been tested and shown to comply with the EN standard for the relevant component are tested according to the requirements of 30.2 of this standard		N/A
	Components that have been previously tested and shown to comply with the resistance to fire requirements in the EN standard for the relevant component need not be retested provided that:		
	- the severity specified in the component standard is not less than the severity specified in 30.2, and		P
	- unless the pre-selection alternatives in 30.2 are used, the test report for the component states the values of t_e and t_i acc. to EN 60695-2-11		P
	If the above two conditions are not satisfied, the component is tested as part of the appliance		N/A
	Power electronic converter circuits are not required to comply with EN 62477-1, but tested as part of the appliance according to this standard		N/A
	Unless components have been tested and found to comply with the relevant EN standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		N/A
	For components mentioned in 24.1.1 to 24.1.9, no additional tests specified in the relevant EN standard for the component are necessary other than those specified in 24.1.1 to 24.1.9		P
	Components that have not been separately tested and found to comply with the relevant EN standard, and		N/A
	components that are not marked or not used in accordance with their marking,		N/A
	are tested in accordance with the conditions occurring in the appliance, the number of samples being that required by the relevant standard		N/A
	Lamp holders and starter holders that have not been previously tested and found to comply with the relevant standard are tested as a part of the appliance and additionally comply with the gauging and interchangeability requirements of the relevant EN standard under the conditions occurring in the appliance		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Where the relevant EN standard specifies these gauging and interchangeability requirements at elevated temperatures, the temperatures measured during the tests of Clause 11 are used		N/A
	There are no additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of EN 60320-1 and EN 60309, unless they are specifically mentioned in the text of this standard		N/A
	Plugs and socket-outlets and other connecting devices of interconnection cords are not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1, or		N/A
	with connectors and appliance inlets complying with the standard sheets of EN 60320-1,		N/A
	if direct supply to these parts from the supply mains gives rise to a hazard		N/A
	For plugs used in CENELEC countries Annex ZH applies		P
24.1.7	If the remote operation of the appliance is via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is EN 41003		N/A
	Compliance with Clause 8 of this standard is not impaired by connecting the appliance to a device covered by EN 41003		N/A
24.Z1	Type S2 and S3 capacitors according to EN 60252-1 are not required to undergo the testing as required by 30.2.2 and 30.2.3.1		N/A
25.1	Plugs and pins for insertion into socket outlets follow the relevant standards sheets in Annex ZH		P
25.7	Rubber sheathed cords (60245 IEC 53) are not suitable for appliances intended to be used outdoors, or		N/A
	when they are liable to be exposed to significant amount of ultraviolet radiation		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
25.25	Instead of IEC/TR 60083, dimensions of the pins and engagement face of plugs of appliances that are inserted into socket-outlets are in accordance with the dimensions of the relevant plug standard		P
	Common plugs and socket-outlets types in CENELEC countries as shown in Annex ZH		P
26.11	Conductors connected by soldering are not considered to be positioned or fixed so that reliance is not placed upon the soldering alone to maintain them in position,		P
	unless they are held in place near the terminals independently of the solder		N/A
29.3.Z1	Appliance constructed so that if there is a possibility of damaging the insulation during installation, the insulation withstands the scratch and penetration test of 21.2		N/A
32	Compliance regarding electromagnetic fields is checked according to EN 62233	EN 62233	P
Annex I, 19.I.101	The appliance is supplied at rated voltage and operated under normal operation with each of the fault conditions specified		N/A
ZA	**ANNEX ZA (**NORMATIVE) **SPECIAL NATIONAL CONDITIONS (EN)**		
	Denmark, Sweden, Norway and Finland		
7.12.8	The maximum inlet water pressure is at least 1,0 MPa .....:		N/A
	Norway		
19.5	The test is also applicable to appliances intended to be permanently connected to fixed wiring		N/A
	Norway		
22.2	The second paragraph of this subclause, dealing with single-phase, permanently connected class I appliances having heating elements, is not applicable due to the supply system		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Ireland and United Kingdom		
25.8	In the table, the line >10 A and ≤16 A is replaced with:		
	> 10 and ≤ 13 1,25 (1,0)[b]		N/A
	> 13 and ≤ 16 1,5 (1,0)[b]		N/A
ZB	ANNEX ZB **(INFORMATIVE)** A-DEVIATIONS		
	Ireland		
25.6	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs complying with I.S. 401:1997, or equivalent, to be fitted to domestic appliances		N/A
	United Kingdom		
25.6	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs to BS 1363 to be fitted to domestic appliances.		P
	It also allows plugs to BS 4573 and EN 50075 to be fitted to shavers and toothbrushes		N/A
ZC	**ANNEX ZC** (NORMATIVE) **NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**		
	A list of documents referred to in the text of this standard in such a way that some or all of their content constitutes requirements of this document		P
ZD	**ANNEX ZD** (INFORMATIVE) **IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS**		
	List of IEC and CENELEC code designations for flexible cords		P

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZE	**ANNEX ZE** (INFORMATIVE) **SPECIFIC ADDITIONAL REQUIREMENTS FOR APPLIANCES AND MACHINES INTENDED FOR COMMERCIAL USE**		
7.1	Business name and full address of the manufacturer and, where applicable, his authorized representative .....:		N/A
	Model or type reference .....:		N/A
	Serial number, if any		N/A
	Production year		N/A
	Designation of the appliance.....:		N/A
7.12	Instructions provided with the appliance so that the appliance can be used safely		N/A
	The instructions contain at least the following information:		N/A
	- the business name and full address of the manufacturer and, where applicable, his authorized representative		N/A
	- model or type reference of the appliance as marked on the appliance itself, except for the serial number		N/A
	- the designation of the appliance together with its explanation in case it is given by a combination of letters and/or numbers		N/A
	- the general description of the appliance, when needed due to the complexity of the appliance		N/A
	- specific precautions required during installation, operation, adjusting, user maintenance, cleaning, repairing or moving		N/A
	- when needed drawings, diagrams, descriptions and explanations necessary for the safe use and user maintenance of the appliance		N/A
	- the possible reasonably foreseeable misuse and, whenever relevant, a warning against the effects it may have on the safe use of the appliance		N/A
	The words “Original instructions” appear on the language version(s) verified by the manufacturer or by the authorized representative		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	When a translation of the original instructions has been provided by a person introducing the appliance on the market; the meaning of the sentence “Translation of the original instructions” appear in the relevant instructions delivered with the appliance		N/A
	The instructions for maintenance/service to be done by specialized personnel, mandated by the manufacturer or the authorized representative may be supplied in only one Community language which the specialized personnel understand		N/A
	The instructions indicate the type and frequency of inspections and maintenance required for safe operation including the preventive maintenance measures		N/A
7.12.ZE1	If needed for specific appliances, the following information to be given:		
	- on use, transportation, assembly, dismantling when out of service, testing or foreseeable breakdowns, if these operations have consequences on stability of the appliance in order to avoid overturning, falling or uncontrolled movements of the appliance or of its component parts		N/A
	- on how to maintain adequate mechanical stability when in use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance		N/A
	- on the protective measures to be taken by the user, including, where appropriate, the personal protective equipment to be provided		N/A
	- on the operating method to be followed in the event of accident or breakdown; if a blockage is likely to occur the operating method to safely unblock the appliance		N/A
	- on the specifications on the spare parts to be used, when these affect the health and safety of the operator		N/A
	- on airborne noise emissions, determined and declared in accordance with the relevant Part 2, which includes:		

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- the A-weighted emission sound pressure level at workstations, where this exceeds 70 dB(A) .....;		N/A
	- where this level does not exceed 70 dB(A), this fact is indicated		N/A
	- the peak C-weighted instantaneous sound pressure value at workstations, where this exceeds 63 Pa (130 dB in relation to 20 µPa).....:		N/A
	- the A-weighted sound power level emitted by the machinery, where the A-weighted emission sound pressure level at workstations exceeds 80 dB(A) .....:		N/A
7.12.ZE2	The instructions include a warning to disconnect the appliance from its power source during service and when replacing parts		N/A
	If the removal of the plug is foreseen, it is clearly indicated that the removal of the plug is such that an operator can check from any of the points to which he has access that the plug remains removed		N/A
19.11.4.8	The appliance continues to operate, without causing any hazard to the user, from the same point in its operating cycle at which the voltage fluctuation occurred, or		N/A
	a manual operation is required to restart it		N/A
20.1	Appliances and their components and fittings have adequate mechanical stability during transportation, assembly, dismantling and any other action involving the appliance		N/A
20.2	Dangerous moving transmission parts safeguarded either by design or guards		N/A
	When guards are used, they are fixed guards, interlocking movable guards or protective devices		N/A
	Moving parts directly involved in the function of the appliance which cannot be made completely inaccessible fitted with:		
	- fixed guards or interlocking movable guards preventing access to those sections of the parts that are not used in the work, and		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- adjustable guards restricting access to those sections of the moving parts where access is necessary		N/A
	Interlocking movable guards used where frequent access is required		N/A
21.1	Appliances and their components and fittings have adequate mechanical strength and is constructed to withstand such rough handling that may be expected in normal use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance		N/A
22.ZE.1	For appliances provided with a seat, the seat gives adequate stability		N/A
	The distance between the seat and the control devices capable of being adapted to the operator		N/A
22.ZE.2	For appliances provided with separate devices for the start and the stop functions, the stop function is unambiguously identifiable and does always override the start function		N/A
	For appliances provided with one device performing the start and the stop function, the stop function is unambiguously identifiable and does always override the start function		N/A
22.ZE.3	Appliances designed in such a way that incorrect mounting is avoided, if this can lead to an unsafe situation		N/A
	If this is not possible, information on the correct mounting is given directly on the part and/or the enclosure		N/A
22.ZE.4	Where the weight, size or shape prevents appliances from being moved manually, they are fitted with attachments for lifting gear, or		N/A
	so designed that they can be fitted with such attachments, or		N/A
	be shaped in such a way that standard lifting gear can easily be used		N/A
	Appliances to be moved manually are constructed or equipped so that they can be moved easily and safely		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
22.ZE.5	The fixing systems of fixed guards which prevent access to dangerous moving transmission parts only removable with the use of tools		N/A
	If such guards have to be removed by the user for routine cleaning or maintenance their fixing systems remain attached to the fixed guards or to the machine after removal		N/A
	Where possible, guards are incapable of remaining in place without their fixings		N/A
	This does not apply if, after removal of the screws, or if the component is incorrectly repositioned, the appliance becomes inoperative		N/A
	Movable guards are interlocked		N/A
	The interlocking devices prevent the start of hazardous appliance functions until the guards are fixed in their position, and give a stop command whenever they are no longer closed		N/A
	Where it is possible for an operator to reach the danger zone before the risk due to hazardous appliance functions has ceased, movable guards associated with a guard locking device in addition to an interlocking device that:		
	- prevents the start of hazardous appliance functions until the guard is closed and locked, and		N/A
	- keeps the guard closed and locked until the risk of injury from the hazardous appliance functions has ceased		N/A
	Interlocking movable guards remain attached to the appliance when open, and		N/A
	they are designed and constructed in such a way that they can be adjusted only by means of an intentional action		N/A
22.ZE.6	Interlocking movable guards designed in such a way that the absence or failure of one of their components prevents starting or stops the hazardous appliance functions		N/A
	The guard is opened to the extent needed to cause the interlocking to operate and is then closed, the number of operations being defined in the specific Part 2.....:		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	After this test any defect that may be expected in normal use is applied to the interlock system, including interruption of the supply, only one defect being simulated at a time		N/A
22.ZE.7	Adjustable guards restricting access to areas of the moving parts strictly necessary for the work are:		
	- adjustable manually or automatically, depending on the type of work involved, and		N/A
	- readily adjustable without the use of tools		N/A
22.ZE.8	In case of interruption, re-establishment after an interruption or fluctuation in whatever manner of the power supply, the appliance does not restart		N/A
	However, automatic restarting of the operation is allowed if the appliance may continue to operate, without causing any hazard to the user, from the same point in its operating cycle at which the voltage interruption or fluctuation occurred		N/A
22.ZE.9	Appliances fitted with means to isolate them from all energy sources		N/A
	Such isolators are clearly identified, and		N/A
	they are capable of being locked if reconnection endanger persons		N/A
	After the energy source is disconnected, it is possible to dissipate any energy remaining or stored in the circuits of the appliance without risk to persons		N/A
ZF	**ANNEX ZF** (INFORMATIVE) **CRITERIA APPLIED FOR THE ALLOCATION OF PRODUCTS COVERED BY STANDARDS IN THE EN 60335 SERIES UNDER LVD OR MD**		
	List of standards under CENELEC/TC61 with the allocation under the LVD (Low Voltage Directive) or the MD (Machinery Directive) .....:	LVD	P
ZG	**ANNEX ZG** (NORMATIVE) **UV APPLIANCES**		
	The following modifications to this standard apply to appliances having UV emitters		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	This annex is not applicable to appliances covered by the scopes of IEC 60335-2-27, IEC 60335-2-59 or IEC 60335-2-109		N/A
7.12.ZG	The instructions for appliances incorporating UVC emitters include the substance of the following: WARNING — This appliance contains a UV emitter. Do not stare at the light source		N/A
ZH	**ANNEX ZH** (INFORMATIVE) **Common plug and socket-outlet types in CENELEC countries**		
	In general, supply cords of single-phase appliances having a rated current not exceeding 16 A are fitted with a plug complying with the following standard sheets:		
	- for class I appliances or class II appliances with functional earth, standard sheet EU2, EU3 or EU4:	EU4	P
	- for class II appliances, standard sheet EU5, EU6 or EU7 .....:		N/A
	There are exemptions or differences in certain CENELEC countries		N/A
ZI	**ANNEX ZI** (INFORMATIVE) **Information on the application of A11:2014 to EN 60335-1:2012 CENELEC CLC/TC 61(SEC)2096A**		
	Clarification of the application of parts 2 in conjunction with the 2002 or 2012 version of EN 60335-1		P
ZZA	**ANNEX ZZA** (INFORMATIVE) **RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE SAFETY OBJECTIVES OF DIRECTIVE 2014/35/EU [2014 OJ L96} AIMED TO BE COVERED**		
	This standard provides one means of conforming to safety objectives of Directive 2014/35/EU		P
	When cited in the Official Journal under that Directive, compliance with the normative clauses of this standard given in Table ZZA.1 confers a presumption of conformity with the safety objectives of that Directive and associated EFTA regulations		P

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict

IEC60335_2_30R ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZZB	**ANNEX ZZB** (INFORMATIVE) **RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE ESSENTIAL REQUIREMENTS OF DIRECTIVE 2006/42/EC AIMED TO BE COVERED**		
	This standard provides one means of conforming to essential requirements of EU Directive 2006/42/EC		N/A
	When cited in the Official Journal under that Directive, compliance with the normative clauses of this standard given in Table ZZB.1 confers a presumption of conformity with the essential requirements of that Directive and associated EFTA regulations		N/A
	Compliance with this Part 1 when used together with the relevant Part 2 provides one means of conformity with the essential health and safety requirements		N/A
	ANNEX EN 62233:2008 + AC:2008 **EMF- ELECTROMAGNETICS FIELDS**		
	The tested product also complies with the requirements of EN 62233:2008		
	Limit ……100%	Measured max. :6,250%	P

ANNEX EN 60335-1/A15:2021			
Clause	Requirement + Test	Result - Remark	Verdict
22.44	An appliance is child-appealing if one of the following criteria is present:		N/A
	- appliance decorated using faces, cartoon like characters, or similar images;		N/A
	- appliance using shapes representing animals, characters, persons or scale models.		N/A
	An appliance is child-appealing if more than one of the following criteria are present:		N/A
	- using non-functional light;		N/A
	- using non-functional sound;		N/A

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
	- using non-functional movement.		N/A
	If the appliance is child-appealing (except toy shaped like the appliance), has a mass less than 4 kg or is mounted or normally intended for use at a height less than 850 mm, the following conditions shall be met:		N/A
	--- No surface (both functional surface and non-functional) that are accessible by means of test probe 19 of IEC 61032 located at a height less than 850 mm shall exceed the temperature rises state below:		N/A
	- of bare metal 38k ……		N/A
	- of coated metal 42k ……		N/A
	- of glass and ceramic 51k ……		N/A
	- of plastic having a thickness exceeding 0.4mm 58k ……		N/A
	--- Hazardous moving parts shall not be accessible by means of test probe 19 of IEC 61032 under the conditions specified for test probe 18 in Clause 20.2.		N/A
	--- Live parts shall not be accessible by means of test probe 19 of IEC 61032 under the conditions specified for test probe 18 in Clause 8.1.1.		N/A
	--- Liquid in the appliance shall not exceed 38 °C in normal use when it is accessible by means of test probe 19 under the conditions specified for test probe 18 in Clause 20.2 or can get out of the appliance when positioned in different positions. Vessels in which two independent and sequential actions are needed to access the liquid are considered to meet the requirement.		N/A
	--- The requirement of 22.12 is applicable for all accessible parts of the appliance.		N/A
24.1.7	If the remote operation of the appliance is via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151		N/A
ZA	**ANNEX ZA (**NORMATIVE) **SPECIAL NATIONAL CONDITIONS (EN)**		
	Ireland and United Kingdom and Cyprus.		-

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
25.8	In the table, the line >10 A and ≤16 A is replaced with:		-
	> 10 and ≤ 13 1,25 (1,0)[b]		N/A
	> 13 and ≤ 16 1,5 (1,0)[b]		N/A
ZC	**ANNEX ZC (NORMATIVE)** **NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**		**-**
	A list of documents referred to in the text of this standard in such a way that some or all of their content constitutes requirements of this document		N/A
ZH	**ANNEX ZH** (INFORMATIVE) **Common plug and socket-outlet types in CENELEC countries**		-
	The dimensions of the plugs are purely for information. The exact dimensions of the plugs can be found in the relevant national standards.		N/A
	There are exemptions or differences in certain CENELEC countries		-
	Cyprus		-
	Only plugs according to standard sheets GB1, GB6 and GB7 of IEC/TR 60083 are allowed. They correspond with plug designations: EU9, EU6 and EU10.		N/A
	Finland		-
	Plugs according to Publications SFS 5610 and SFS-EN 50075 are allowed. Plugs according to Publications SFS 5215 and SFS-EN 60309 are allowed.		N/A
	Netherlands		-
	Only plugs according to NEN 1020:2019 are allowed These plugs are shown in IEC/TR 60083 as NL2, NL3, NL4, NL5 and DE4. They correspond with plug designations: EU 2, EU4, EU5, EU6, EU7 and EU8.		N/A
	Switzerland		-

IEC 60335-2-30			
Clause	Requirement + Test	Result - Remark	Verdict
	Supply cords of portable household and similar electrical appliances having a rated current not exceeding 16 A shall be provided with a plug complying with SN 441011-1:2019. The Table A is applicable for Plug with IP20 and Table B is applicable for plug with IP55.		N/A

10.1	TABLE: Power input deviation				P
Input deviation of/at:	**P rated (W)**	**P measured (W)**	**Δ P**	**Required Δ P**	**Remark**
GPH-10RA at 230V	1000	975	-2,5%	-10% - +5%	P
GPH-15RA at 230V	1500	1435	-4,3%	-10% - +5%	P
GPH-20RA at 230V	2000	1958	-2,1%	-10% - +5%	P
GPH-N10XA at 230V	1000	972	-2,8%	-10% - +5%	P
GPH-N15XA at 230V	1500	1438	-4,1%	-10% - +5%	P
GPH-N20XA at 230V	2000	1962	-1,9%	-10% - +5%	P
Remark: above power input are tested using X type heating element, for the models with same heating elements as representative.					

11.8	TABLE: Heating test, thermocouples for GPH-20RA (with alternative PCB assembly)		P
	Test voltage (V).....:	250,1V	—
	Ambient (°C) .....:	23°C	—
Thermocouple locations	dT (K)		Max. dT (K)
	Portable	Wall mounting	
Supply cord	15	12	50
Ambient of self-resetting thermal cut-out(Left)	44	49	125(T-25)
Ambient of self-resetting thermal cut-out(Right)	41	45	125(T-25)
Relay	48	50	60(T-25)
X2 capacitor	47	48	75(T-25)
PCB	51	52	120
PCB Box	42	44	-
Transformer	49	57	80
Internal wire	43	44	155(T-25)
Surface of touch switch	19	20	60
Air outlet grille(metal)	100	101	130
Other surface of test rod (metal)	59	62	85
Other surface of test rod (Glass)	66	66	100
Wire connector	33	35	80
Test corner	25	31	65/60

11.8	TABLE: Heating test, thermocouples for GPH-N20XA		P
	Test voltage (V)....:	253,4V	—
	Ambient (°C) ....:	23°C	—

Thermocouple locations	dT (K)		Max. dT (K)
	Portable	Wall mounting	
Supply cord	21	22	50
Ambient of self-resetting thermal cut-out	120	120	125(T-25)
Relay	51	52	60(T-25)
X2 capacitor	31	33	75(T-25)
PCB	31	32	120
Transformer	42	43	80
Internal wire	64	65	155(T-25)
Air outlet grille(metal)	114	114	130
Other surface of test rod (metal)	65	66	85
Other surface of test rod (Glass)	66	67	100
Wire connector	25	28	80
Test corner	13	23	65/60

11.8	TABLE: Heating test, thermocouples for GPH-N20HA		P
	Test voltage (V)....:	255,6V	—
	Ambient (°C) ....:	23°C	—

Thermocouple locations	dT (K)		Max. dT (K)
	Portable	Wall mounting	
Supply cord	24	26	50
Ambient of self-resetting thermal cut-out	105	105	125(T-25)
Relay	47	48	60(T-25)
X2 capacitor	33	33	75(T-25)
PCB	36	37	120
Transformer	42	43	80
Internal wire	64	65	155(T-25)
Surface of touch switch	9	11	60
Air outlet grille(metal)	123	122	130
Other surface of test rod (metal)	60	62	85
Other surface of test rod (Glass)	65	65	100

Enclosure plastic	37	40	-
Test corner	15	20	65

11.8	TABLE: Heating test, thermocouples for GPH-20XA(Portable)(with alternative PCB assembly)		P
	Test voltage (V).....:	254,7V	—
	Ambient (°C) .....:	23°C	—

Thermocouple locations	dT (K)	Max. dT (K)
Supply cord	22	50
Ambient of self-resetting thermal cut-out(Left)	40	125(T-25)
Ambient of self-resetting thermal cut-out(Right)	41	125(T-25)
Relay	46	60(T-25)
X2 capacitor	32	75(T-25)
PCB	47	120
Transformer	39	80
Internal wire	94	155(T-25)
Air outlet grille(metal)	96	130
Other surface of test rod (metal)	59	85
Other surface of test rod (Glass)	62	100
Test corner	10	65

13.2	**TABLE: Leakage current**		P
	Heating appliances: 1.15 x rated input (W).. :	Refer to Cl 11.8	—
	Motor-operated and combined appliances: 1.06 x rated voltage (V) ..... :	N/A	—

Leakage current between:	**I (mA)**	**Max. allowed I (mA)**
Live part and the accessible non-metallic control panel:	Max. 0,006	0,35(peak)
Live part and the accessible metal enclosure:	Max. 0,032	0,75
Supplementary information:		

13.3	**TABLE: Dielectric strength**		P
Test voltage applied between:		**Test potential applied (V)**	**Breakdown / flashover (Yes/No)**

L/N and earthed metal enclosure	1000	No
Inner surface and outer surface of non-metallic control panel	1750	No
L/N and non-metallic control panel, knob surface	3000	No
Supplementary information:		

16.2	**TABLE: Leakage current**		P
	Single phase appliances: 1.06 x rated voltage (V)..... :	243,8	—
	Three phase appliances 1.06 x rated voltage divided by √3 (V)..... :	N/A	—
Leakage current between:		**I (mA)**	**Max. allowed I (mA)**
Live part and the accessible non-metallic control panel:		Max. 0,01	0,25
Live part and the accessible metal enclosure:		Max. 0,04	0,75
Supplementary information:			

16.3	**TABLE: Dielectric strength**	P
Test voltage applied between:	**Test potential applied (V)**	**Breakdown / flashover (Yes/No)**
L/N and earthed metal enclosure	1250	No
Inner surface and outer surface of non-metallic control panel	1750	No
L/N and non-metallic control panel, knob surface	3000	No
Supplementary information:		

19	**Abnormal operation conditions**						**P**
Operational characteristics			**YES/NO**	**Operational conditions**			
Are there electronic circuits to control the appliance operation?			Yes	As requirement of standard			
Are there "off" or "stand-by" position?			Yes	As requirement of standard			
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**
19.11.2	Rated voltage	No fire, No hazard	N/A	P	N/A	N/A	P
19.11.4.8	Rated voltage	No fire, no	N/A	P	N/A	N/A	P

		hazards.					
19.10X	Refer to table 19.13	No hazard	N/A	N/A	N/A	N/A	P
Supplementary information:							

19.13	TABLE: Abnormal operation, temperature rises for GPH-N20HA		P
	Test voltage (V)…..:	19.101,19.102: 2480W at 265,5V 19.103, 19.112, 19.5: 2300W at 255,6V	—
	Ambient, t1(°C)…...:	23°C	—
	Ambient, t2(°C) …..:	23°C	—

Thermocouple locations	dT (K)		Max. dT (K)
	Portable	Wall mounting	
19.101			
Wall ceiling and floor of test corner	39	41	150
Supply cord	29	32	150
Enclosure plastic	53	58	---
19.102			
Wall ceiling and floor of test corner	45	---	150
Supply cord	29	---	150
Enclosure plastic	52	---	---
19.103			
Wall ceiling and floor of test corner	44	44	150
Supply cord	31	32	150
Enclosure plastic	59	63	---
Felt	127	130	150
19.112			
Wall ceiling and floor of test corner	36	---	---
Supply cord	28	---	---
Enclosure plastic	39	---	---

24.1	**TABLE: Critical components information**				P
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
Please refer to the latest edition of the Constructional Data Form (CDF) issued for this test report.					

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
2 500	1,5 / 2,0***	X	X		X	P
4 000	3,0 / 3,5***			X		P

Supplementary information:

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

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V):	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	Verdict
250	**0,56**	1,25	1,8	**2,5**	3,2	3,6	4,0	X	—	—	P
250	0,56	1,25	1,8	**2,5**	3,2	3,6	4,0	—	X	—	P
250	1,12	2,5	3,6	**5,0**	6,4	7,2	8,0	—	—	X	P

Supplementary information:

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

29.2	TABLE: Creepage distances, functional insulation							P
Working voltage (V):	Creepage distance (mm) Pollution degree							
	1	2			3			
		Material group			Material group			
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	Verdict / Remark

250	0,42	1,0	1,4	**2,0**	2,5	2,8	3,2	P
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) .....:	2mm		—
Object/ Part No./ Material	**Manufacturer/ trademark**	**Test temperature (°C)**	**Impression diameter (mm)**
PCB	Suzhou Qingtai	125	0,5
PCB	FOSHAN HANNY ELECTRONICS CO.,LTD	125	0,6
Supplementary information:			

30.2	**TABLE: Resistance to heat and fire - Glow wire tests**							P
Object/ Part No./ Material	**Manufacturer / trademark**	**Glow wire test (GWT); (°C)**						**Verdict**
		550	**650**		**750**		**850**	
			te	**ti**	**te**	**ti**		
Relay(new added)	Refer to table 24.1				NI	NI	NI	P
Object/ Part No./ Material	**Manufacturer / trademark**	**Glow-wire flammability index (GWFI), °C**				**GW ignition temp. (GWIT), °C**		**Verdict**
		550	**650**	**750**	**850**	**675**	**775**	
								N/A
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) .....:								N/A
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								

30.2/30.4	**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	Suzhou Qingtai	30	No	N/A	P
PCB	FOSHAN HANNY ELECTRONICS CO.,LTD	30	No	N/A	P
Supplementary information: - NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1 - NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0					

Appendix – Photographs

Photo 1.
Description: overall view for GPH-**P and GPH-**PA(GPH-20PA as representative)

Photo 2.
Description: internal view for GPH-**P and GPH-**PA(GPH-20PA as representative)

Appendix – Photographs

Photo 3.
Description: alternative power PCB view for all models

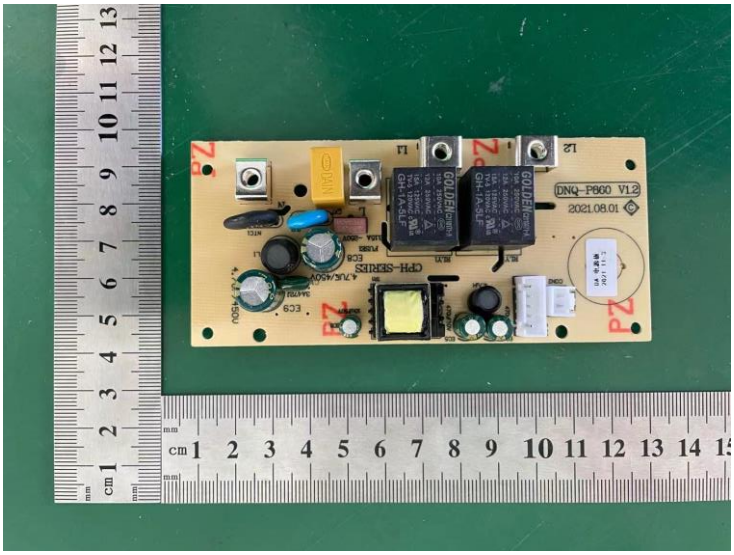
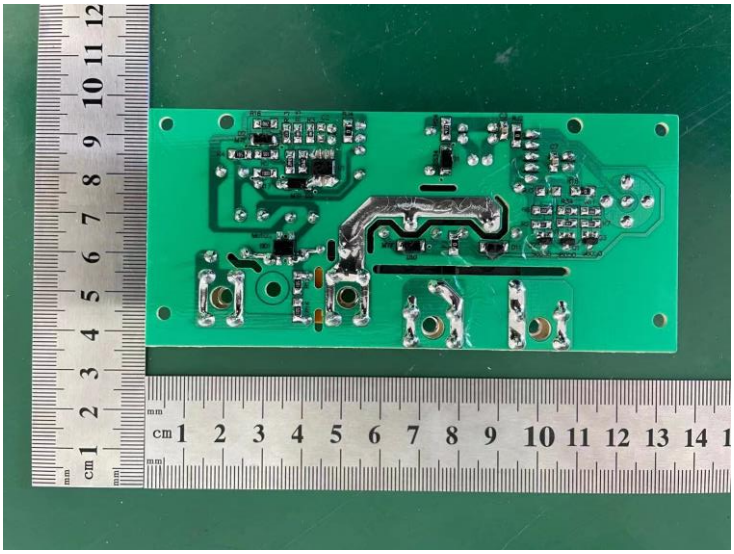


Photo 4.
Description: alternative power PCB view for all models



Appendix – Photographs

Photo 5.
Description: control PCB view for GPH-**P and GPH-**PA

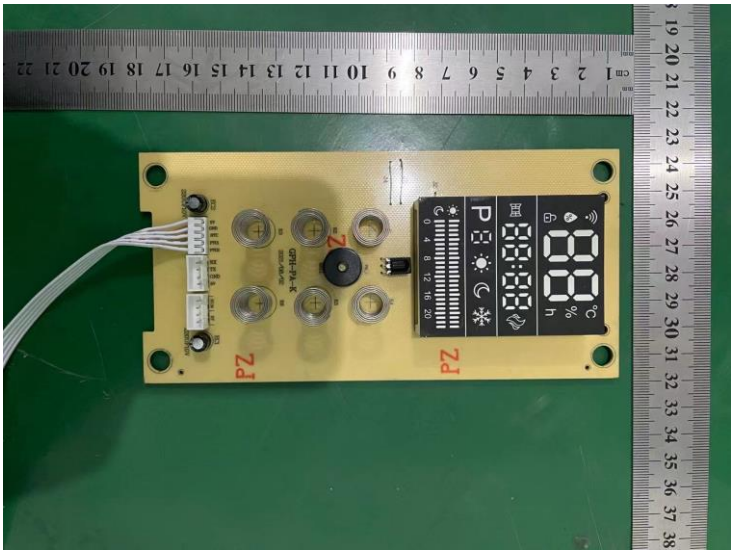
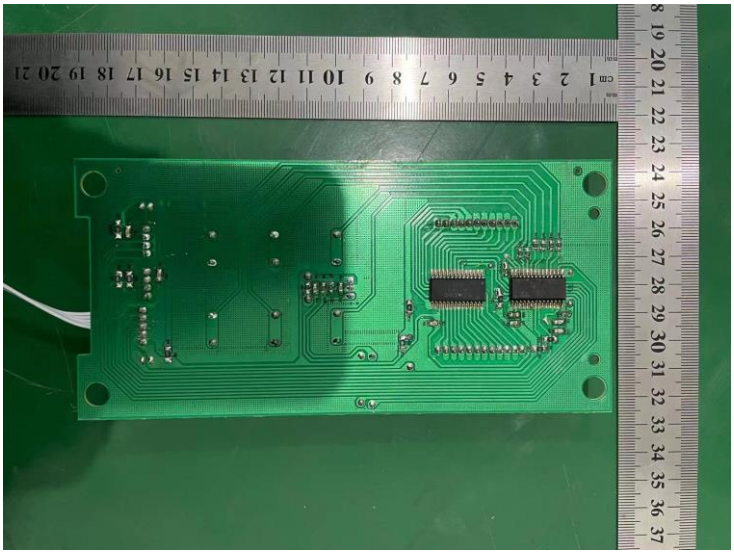


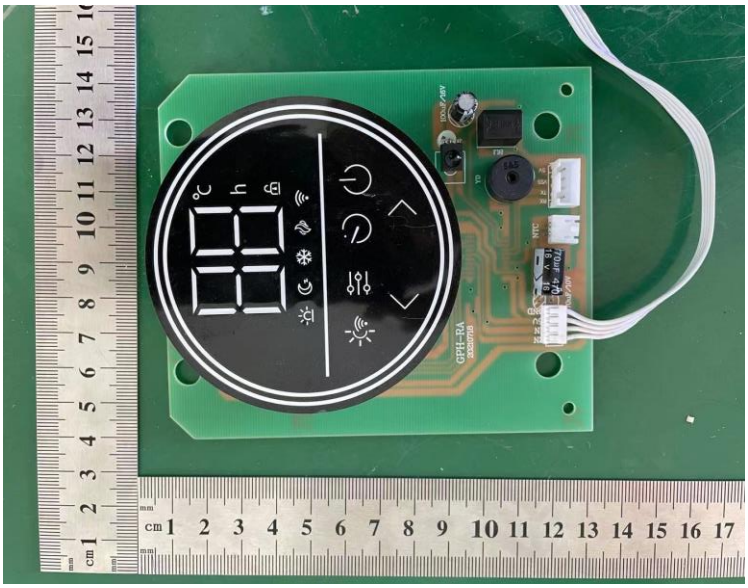
Photo 6.
Description: control PCB view for GPH-**P and GPH-**PA



Appendix – Photographs

Photo 7.
Description: overall view for GPH-**R and GPH-**RA(GPH-20RA as representative)

Photo 8.
Description: control PCB view for GPH-**R and GPH-**RA



Appendix – Photographs

Photo 9.
Description: control PCB view for GPH-**R and GPH-**RA

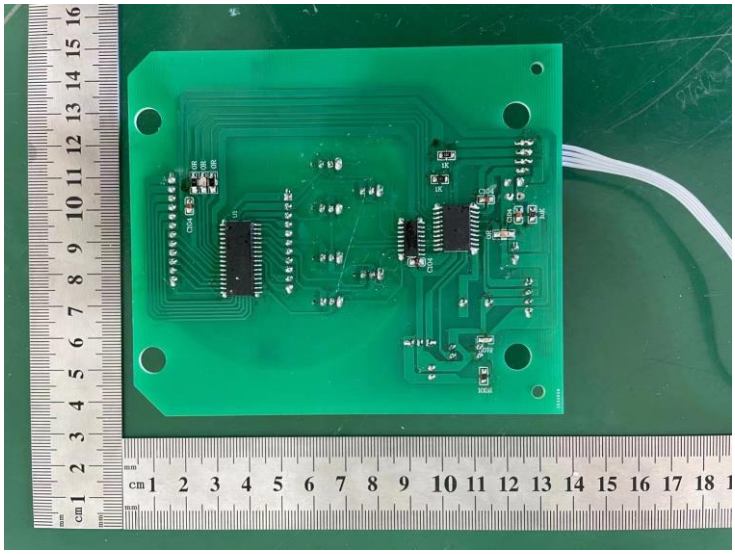


Photo 10.
Description: overall view for GPH-**S and GPH-**SA(GPH-20SA as representative)

Appendix – Photographs

Photo 11.
Description: control PCB view for GPH-**S and GPH-**SA

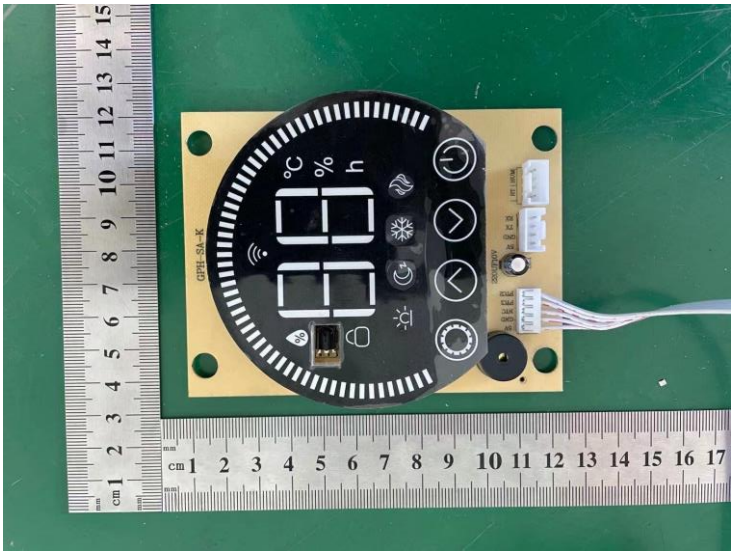
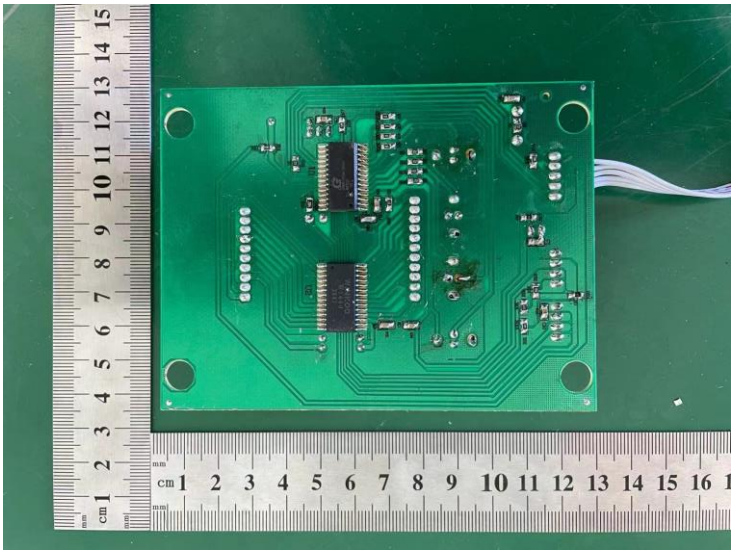


Photo 12.
Description: control PCB view for GPH-**S and GPH-**SA



Appendix – Photographs

Photo 13.
Description: overall view-front for GPH-N**H and GPH-N**HA(GPH-N20HA as representative)

Photo 14.
Description: overall view-back for GPH-N**H and GPH-N**HA(GPH-N20HA as representative)

Appendix – Photographs

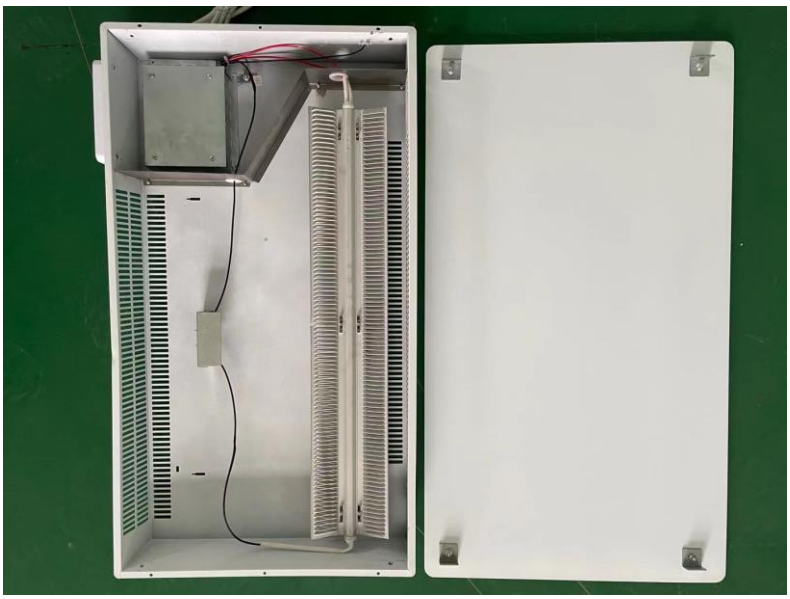
Photo 15.
Description: overall view-side for GPH-N**H and GPH-N**HA(GPH-N20HA as representative)

Photo 16.
Description: overall view-side for GPH-N**H and GPH-N**HA(GPH-N20HA as representative)

Appendix – Photographs

Photo 17.
Description: control panel view for GPH-N**H and GPH-N**HA(GPH-N20HA as representative)

Photo 18.
Description: internal view for GPH-N**H and GPH-N**HA(GPH-N20HA as representative)



Appendix – Photographs

Photo 19.

Description: Power PCB view

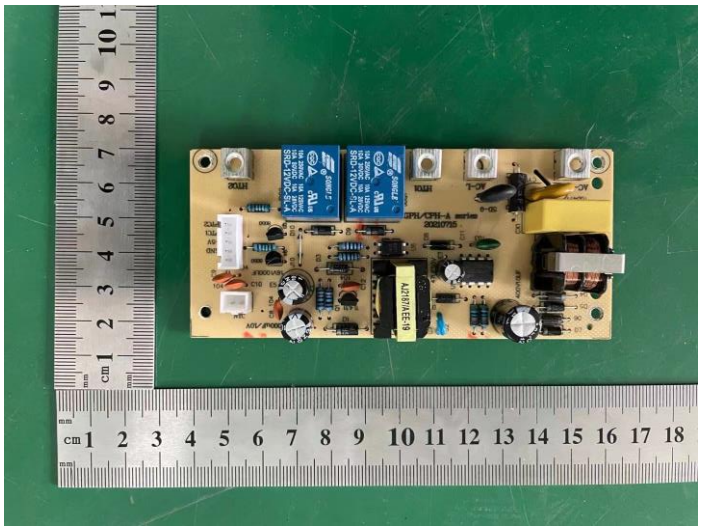
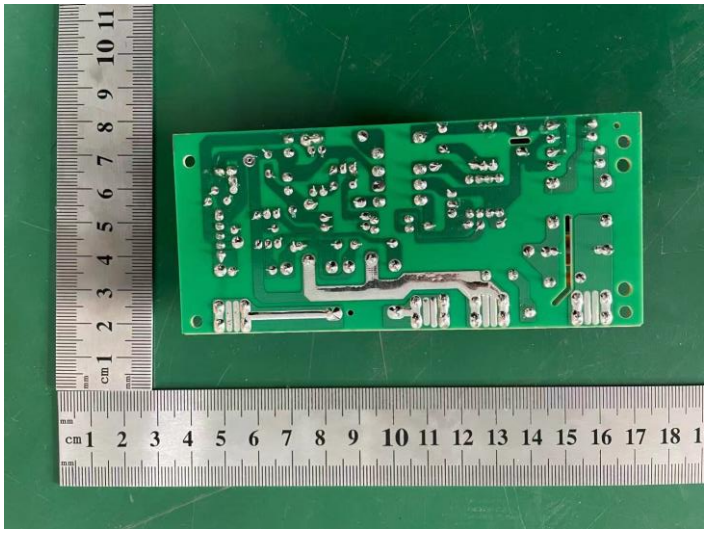


Photo 20.

Description: Power PCB view



Appendix – Photographs

Photo 21.
Description: control PCB view for GPH-N**H and GPH-N**HA

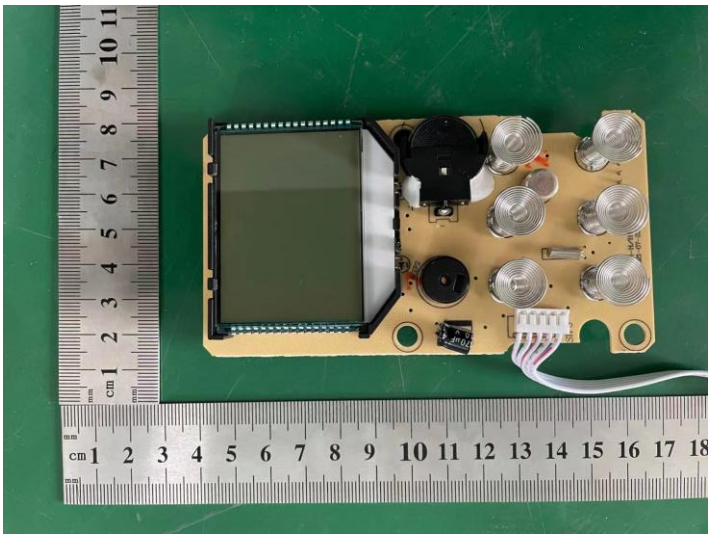
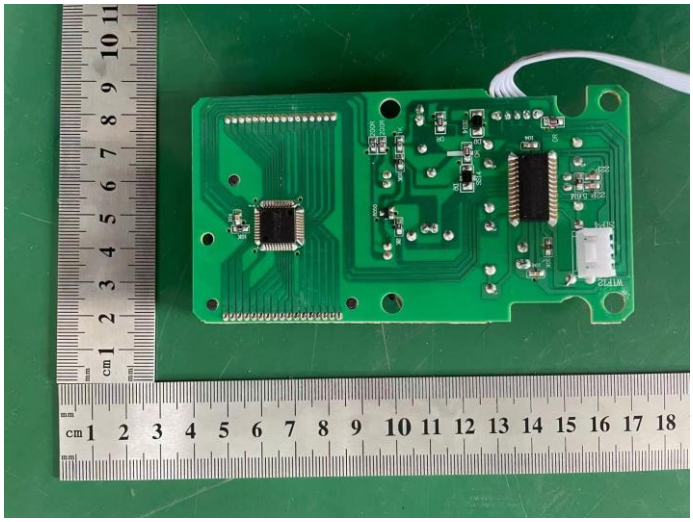


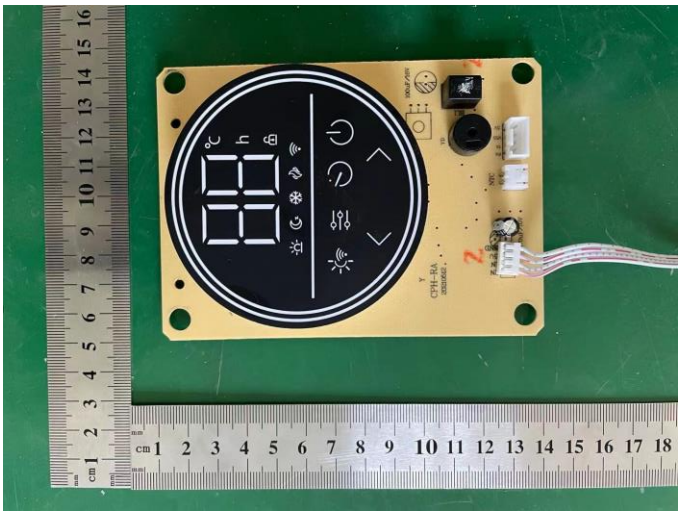
Photo 22.
Description: control PCB view for GPH-N**H and GPH-N**HA



Appendix – Photographs

Photo 23.
Description: overall view-front for GPH-N**R and GPH-N**RA(GPH-N20RA as representative)

Photo 24.
Description: control PCB view for GPH-N**R and GPH-N**RA(GPH-N20RA as representative)



Appendix – Photographs

Photo 25.
Description: control PCB view for GPH-N**R and GPH-N**RA(GPH-N20RA as representative)

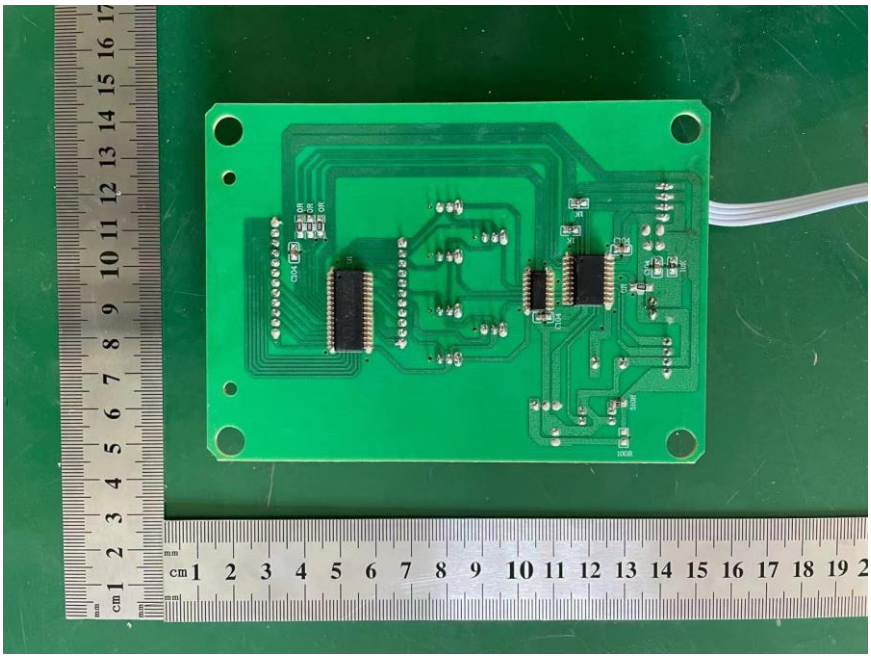


Photo 26.
Description: overall view-front for GPH-N**X and GPH-N**XA(GPH-N20XA as representative)

Appendix – Photographs

Photo 27.
Description: control PCB view for GPH-N**X and GPH-N**XA(GPH-N20XA as representative)

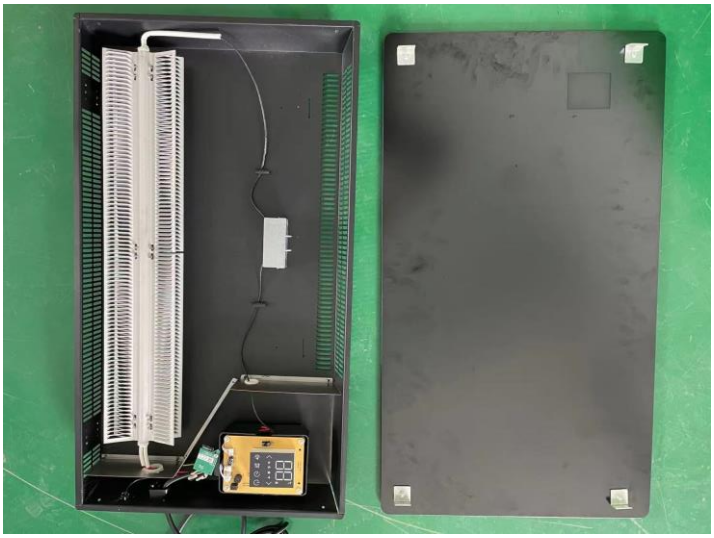
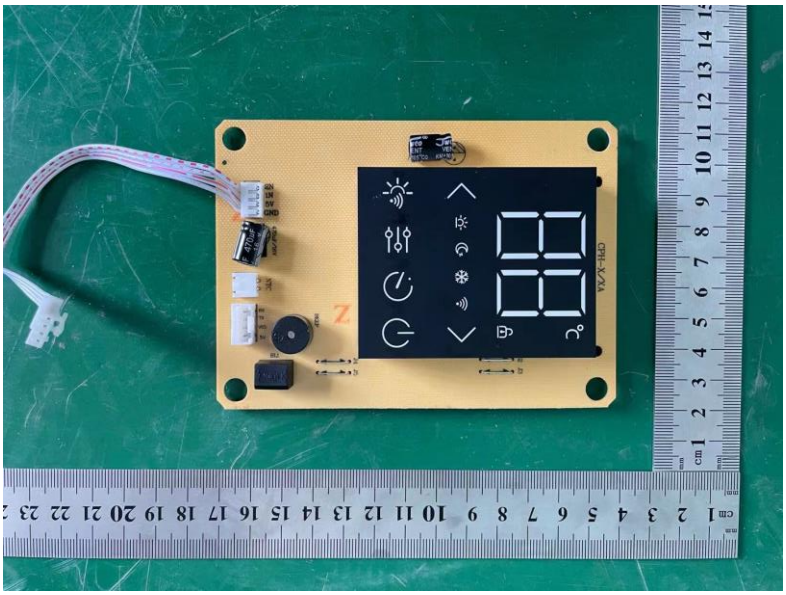


Photo 28.
Description: control PCB view for GPH-N**X and GPH-N**XA(GPH-N20XA as representative)



Appendix – Photographs

Photo 29.
Description: control PCB view for GPH-N**X and GPH-N**XA(GPH-N20XA as representative)

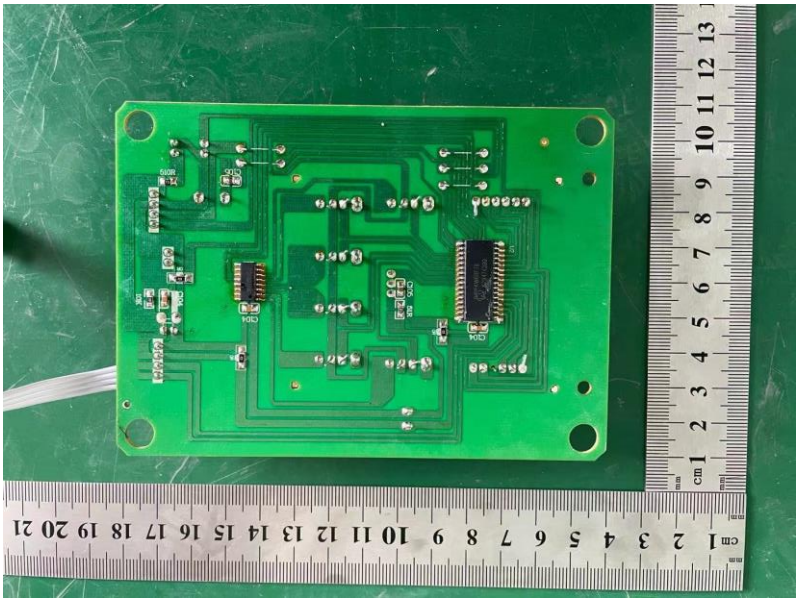
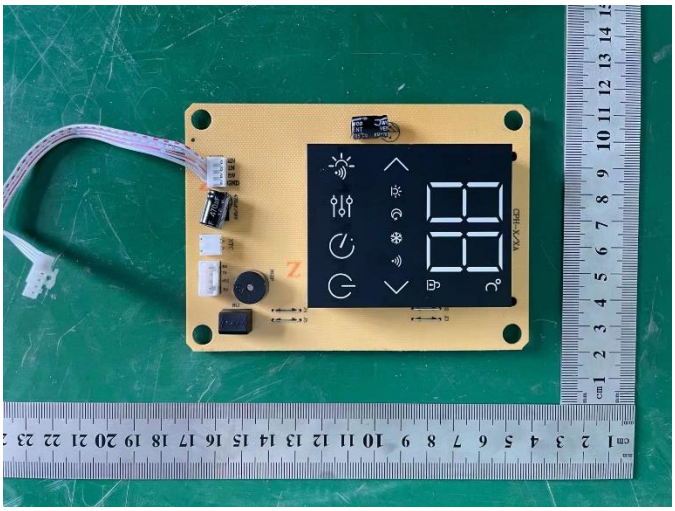


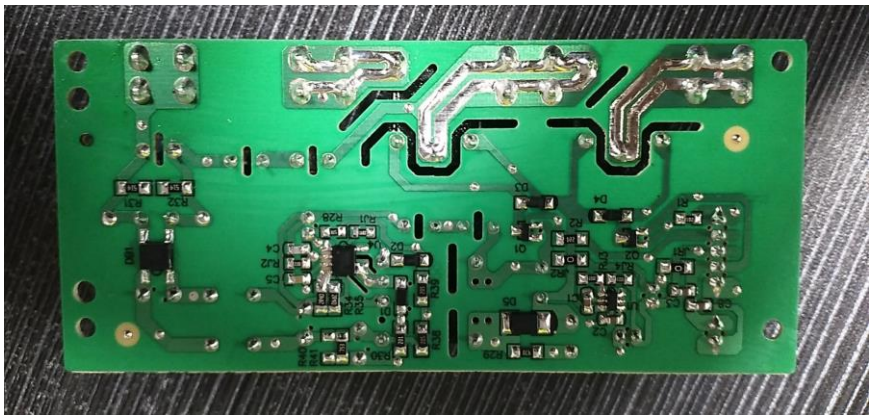
Photo 30.
Description: control PCB view for GPH-N**X and GPH-N**XA(GPH-N20XA as representative)



Appendix – Photographs

Photo 31.
Description: alternative Power PCB view for all models

Photo 32.
Description: alternative Power PCB view for all models



Appendix – Photographs

Photo 33.
Description: alternative control PCB view for GPH-**D and GPH-**DA

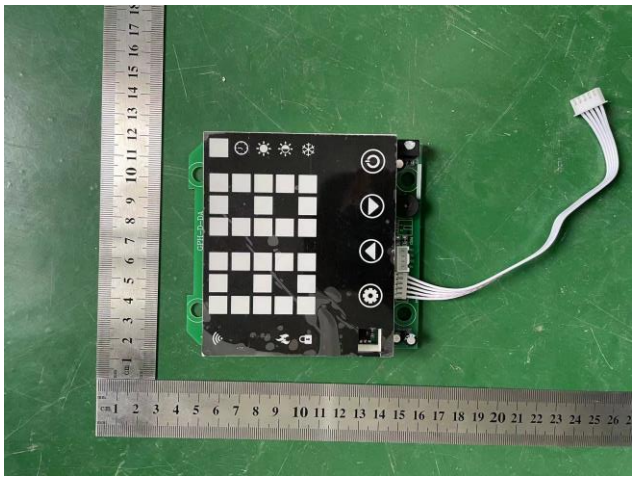
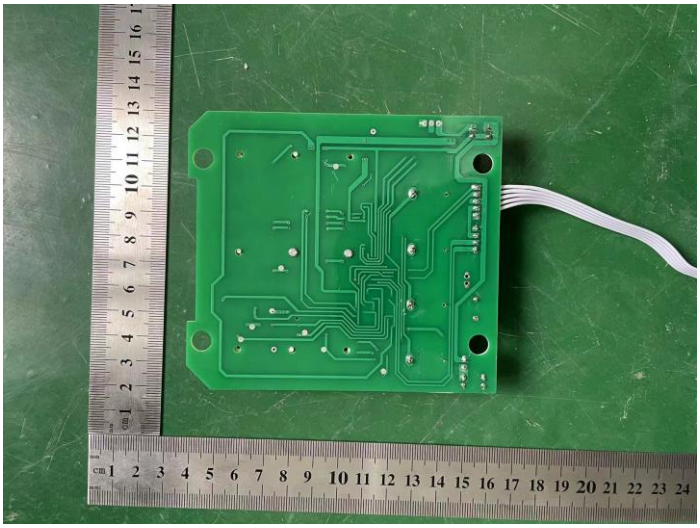


Photo 34.
Description: alternative control PCB view for GPH-**D and GPH-**DA



Appendix – Photographs

Photo 35.
Description: alternative control PCB view for GPH-**LW

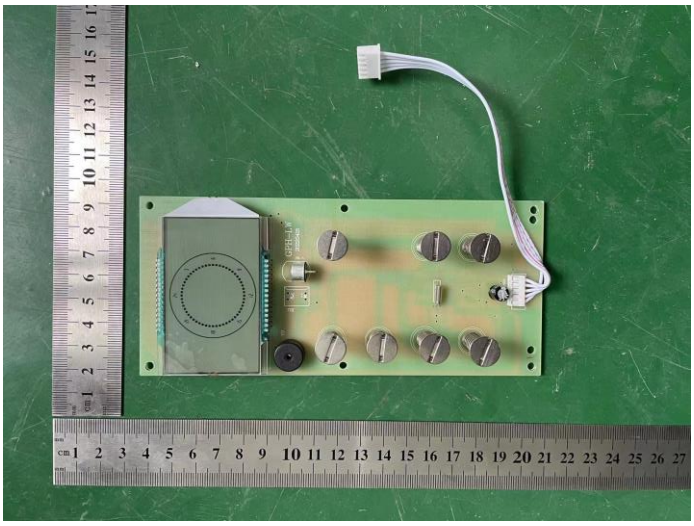
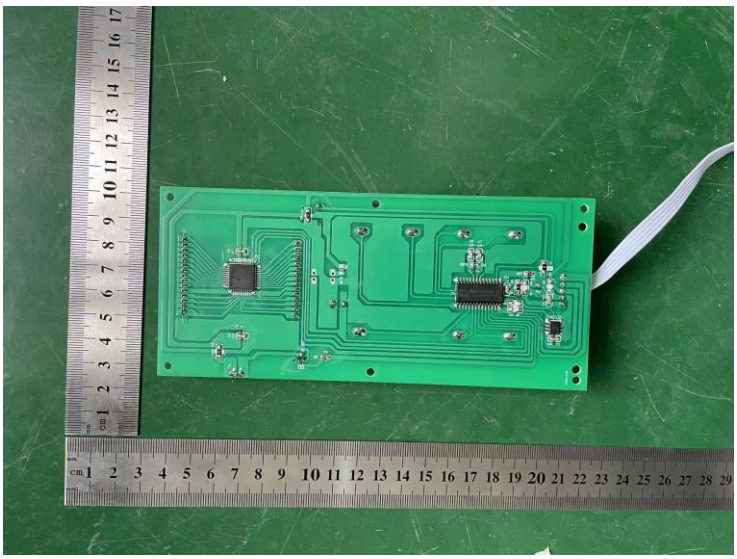


Photo 36.
Description: alternative control PCB view for GPH-**LW



Appendix – Photographs

Photo 37.
Description: alternative control PCB view for GPH-**D and GPH-**DA

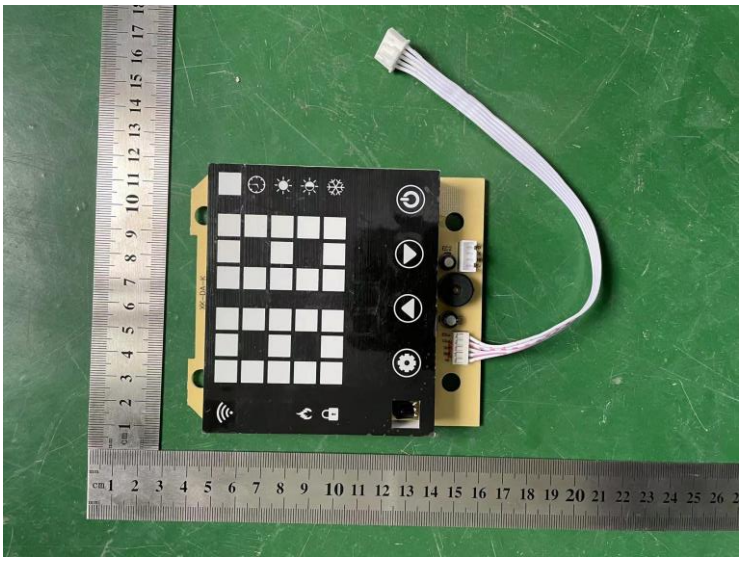
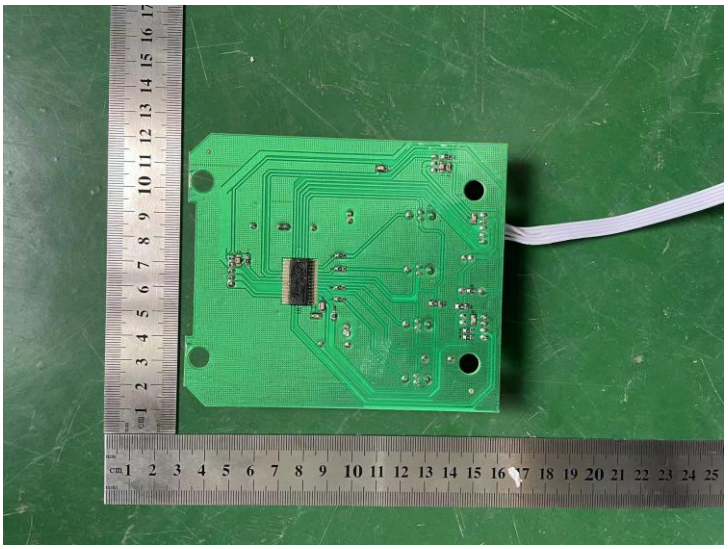


Photo 38.
Description: alternative control PCB view for GPH-**D and GPH-**DA



Appendix – Photographs

Photo 39.
Description: alternative control PCB view for GPH-**E and GPH-**EA

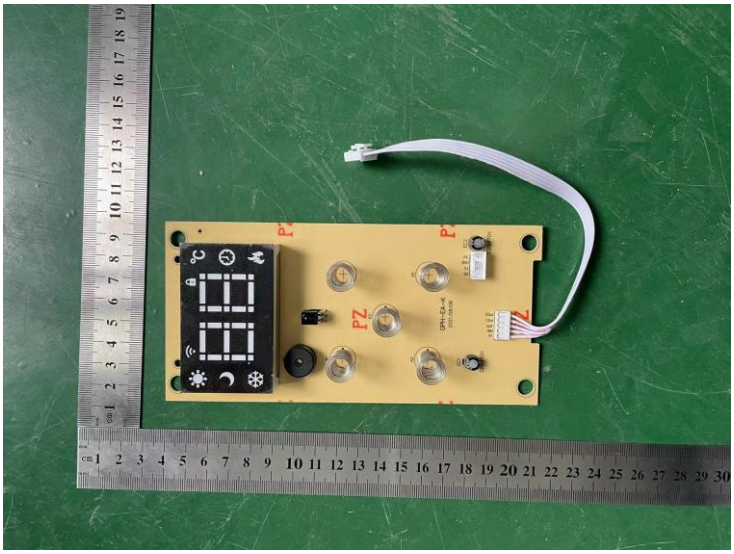
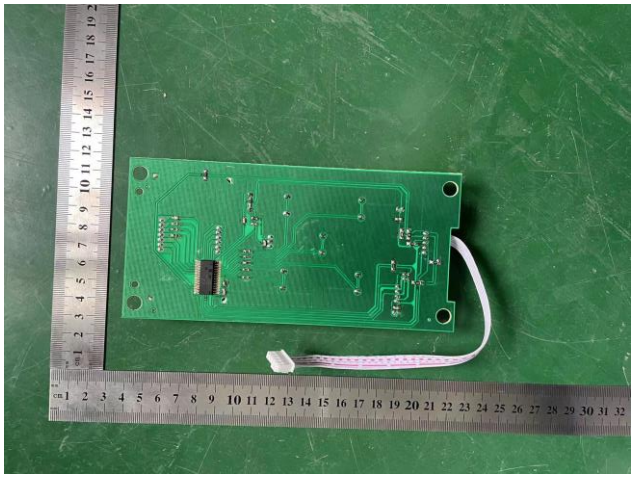


Photo 40.
Description: alternative control PCB view for GPH-**E and GPH-**EA



Appendix – Photographs

Photo 41.
Description: alternative control PCB view for GPH-**LW

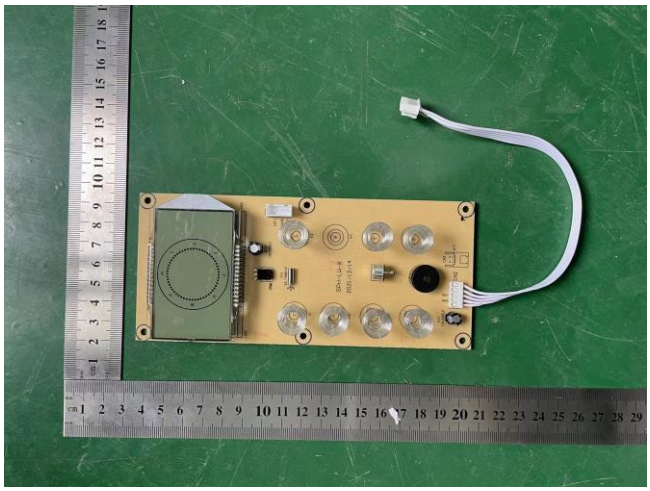
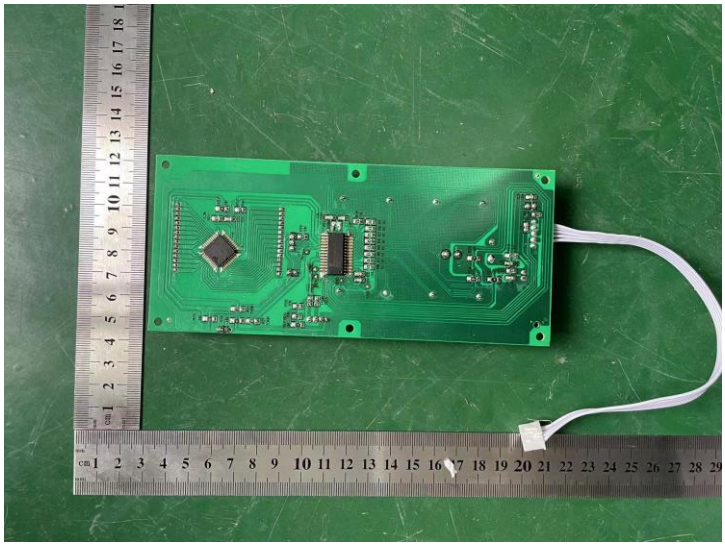


Photo 42.
Description: alternative control PCB view for GPH-**LW



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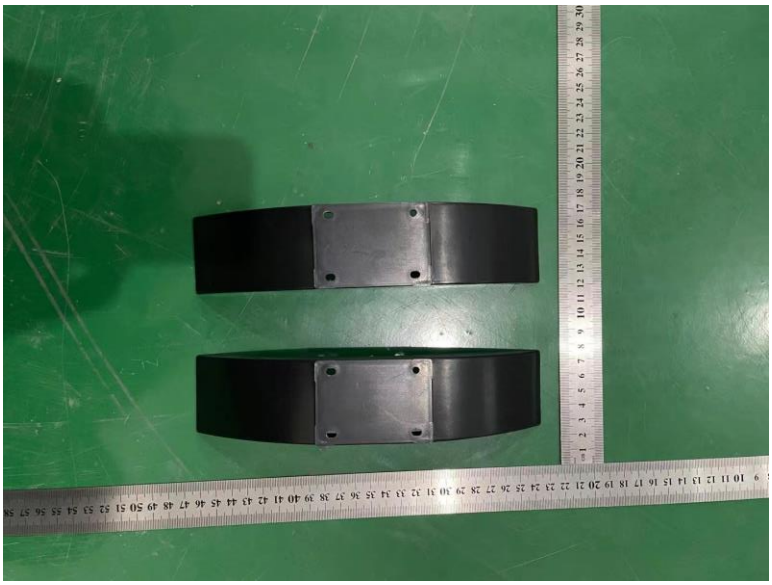
Photo 43.
Description: alternative base support view for all models