ALPICAIR

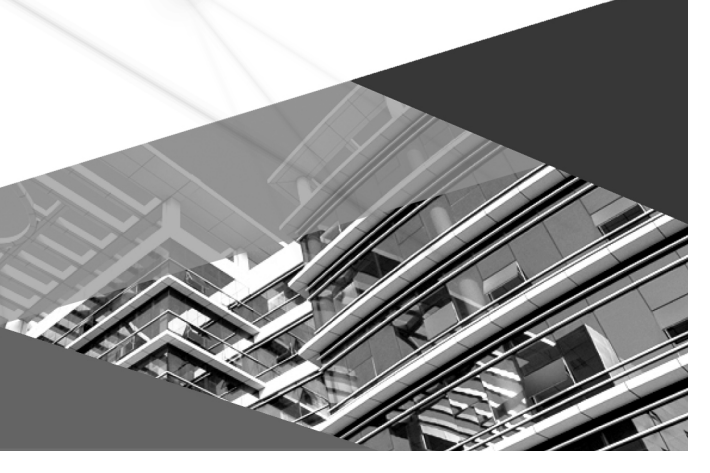
Owner's Manual

Original Instructions INVERTER

Air Conditioners

Air-to-water Heat Pump

Thank you for choosing this product. Please read this Manual carefully before operation and retain it for future reference.



To Users

Thank you for selecting AlpicAir product. Please read this instruction manual carefully before installing and using the product, so as to master and correctly use the product. In order to guide you to correctly install and use our product and achieve expected operating effect, we hereby instruct as below:

(1) This equipment should be installed, operated or maintained by the qualified servicemen who have had specific training. During operation, all safety issues covered in the labels, User's Manual and other literature should be followed strictly. This equipment is not intended for use 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 concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

(2) This product has gone through strict inspection and operational test before leaving the factory. In order to avoid damage due to improper disassembly and inspection, which may impact the normal operation of unit, please do not disassemble the unit by yourself. You can contact our designated dealer or local service center for professional support if necessary.

(3) When the product is faulted and cannot be operated, please contact our designated dealer or local service center as soon as possible by providing the following information..

- Contents of nameplate of product (model, cooling/heating capacity, product No., ex-factory date).
- Malfunction status (specify the situations before and after the error occurs).

(4) All the illustrations and information in the instruction manual are only for reference. In order to make the product better, we will continuously conduct improvement and innovation without further notice.

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Safety Notices (Please be sure to abide)

⚠ **WARNING**: If not abide strictly, it may cause severe damage to the unit or the people.

⚠ **NOTE**: If not abide strictly, it may cause slight or medium damage to the unit or the people.

This sign indicates that the operation must be prohibited. Improper operation may cause severe damage or death to people

This sign indicates that the items must be observed. Improper operation may cause damage to people or property.

⚠ NOTE
1. Qualified maintenance site: it shall meet the requirements for maintenance of flammable refrigerant products proposed by relevant countries, governments and institutions. It shall comply with the following points, including but not limited to: (1) The site shall be well ventilated; (2) There is no ignition source; (3) When repairing products, personnel should take anti-static measures, such as wearing anti-static clothing, wearing anti-static bracelets, etc. (4) Maintenance tools should meet the safety requirements for flammable refrigerant. (5) The leak detector shall be in working condition. (6) Corresponding fire safety measures should be available. (7) Before welding, ensure that refrigerant inside system has been fully emptied and filled with nitrogen, and ensure that there is no flammable refrigerant in the maintenance site.
2. Qualified personnel: they shall meet qualification corresponding to flammable refrigerant products issued by the state, government and institutions, and pass training and relevant certification, including but not limited: (1) take and pass professional training about flammable refrigerant air conditioning units. (2) proficient at professional knowledge of flammable refrigerant air conditioning units. (3) obtain the relevant required certificates.

3. Safety requirements for the product installation site: it shall meet the installation requirements for flammable refrigerant products proposed by relevant countries, governments and institutions, including but not limited:

(1) Unpacking inspection before installation:
- Open the box in a well-ventilated area for inspection, and no ignition source is allowed around;
- Check whether there is refrigerant leakage in the box before opening the box, and if leakage is found, the installation cannot be continued;
- Check whether the product has collision marks and whether the appearance is good.

(2) The unit must be installed outdoors, and the site should be well ventilated.

(3) Ignition sources are prohibited on site.

(4) Installation personnel should take anti-static measures, such as: wear anti-static clothing, wear anti-static bracelet, etc.

(5) Installation tools should meet the safety requirements of flammable refrigerant.

(6) The leak detector should be in working condition.

(7) When the length of the power cord and signal lines of the product is not enough, the whole cable should be replaced, and connection between cables is strictly prohibited.

(8) The following faults are forbidden to be repaired at the installation site. In these cases, the unit needs to be returned to a qualified site for maintenance:
- Faults that need to be welded to the internal refrigerant pipeline;
- Faults that need to disassemble the refrigerant system for maintenance.

⚠ NOTE

After receipt of the unit, check it for appearance, unit model compared with your desire and attachments.

Maintenance and installation work of the unit must be performed by authorized personnel according to applicable laws and regulations and this Instruction.

After installation work, the unit cannot be energized unless there is not any problem in check.

Ensure periodical clean and maintenance of the unit after normal operation of the unit for longer life and reliable operation.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

The appliance shall be installed in accordance with national wiring regulations.

This product is a kind of comfort air conditioning, and is not allowed to be installed where there are corrosive, explosive and inflammable substances or smog; otherwise it would lead to operation failure, shortened service life, five hazard or even severe injuries. Special air conditions are required for where mentioned above.



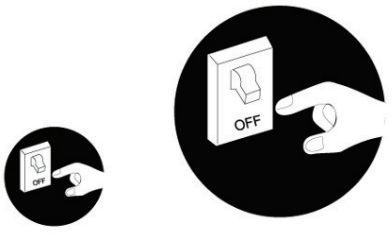
Correct Disposure

This marking indicates that this product should not be disposed with other household wastes throughout the EU.To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device,please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

R290:0.02

⚠ WARNING

Once abnormality like burning smell occurs, please cut off the power supply immediately and then contact with service center.



If the abnormality still exists, the unit may be damaged and electric shock or fire may result.

Don't operate the unit with wet hand.



Otherwise, it may cause electric shock.

Before installation,please see if the voltage of local place accords with that on nameplate of unit and capacity of power supply, power cord or socket is suitable for input power of this unit.

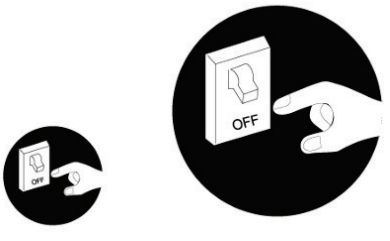


Special circuit must be adopted for power supply to prevent fire.



Do not use octopus multipurpose plug or mobile terminal board for wire connection.

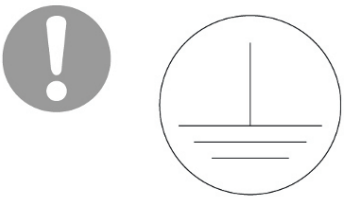
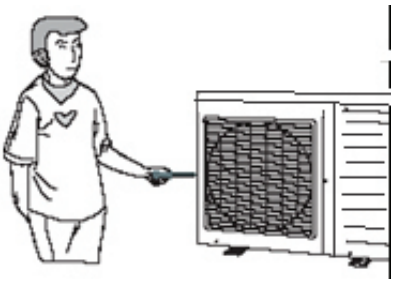
Be sure to pull out the power plug and drain the water system when the unit is not in use for a long time.

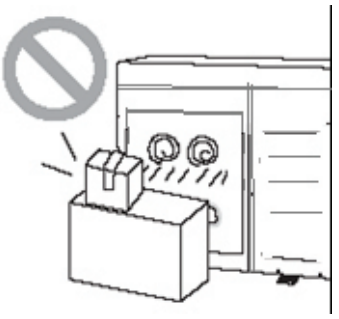
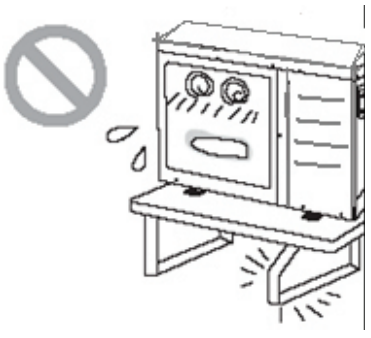


Never damage the electric wire or use the one which is not specified.



Otherwise, it may cause overheating or fire.

Before cleaning please cut off the power supply.  Otherwise, it may cause electric shock or damage.	The power supply must adopt special circuit with leakage switch and enough capacity.	User can not change power cord socket without prior consent. Wiring working must be done by professionals. Ensure good earthing and don't change earthing mode of unit.
Earthing: the unit must be earthed reliably ! The earthing wire should connect with special device of buildings.  If not, please ask the qualified personnel to install. Furthermore, don't connect earth wire to gas pipe, water pipe, drainage pipe or any other improper places which professional does not recognize.	Never insert any foreign matter into outdoor unit to avoid damage . And never insert your hands into the air outlet of outdoor unit. 	Don't attempt to repair the unit by yourself.  Improper repair may cause electric shock or fire, so you should contact the service center to repair.

Don't step on the top of the unit or place anything on it.  There is the danger of fall of things or people.	Never block the air inlet and outlet of unit.  It may reduce efficiency or cause stop of the unit and even fire.	Keep pressurized spray, gas holder and so on away from the unit above 1m .  It may cause fire or explosion.
Please note whether the installation stand is firm enough or not.  If damaged, it may cause fall of the unit and injury of people.	Unit should be installed at the place with good ventilation to save energy.	When there is no water in the system, do not start the unit.

⚠ WARNING

This unit is filled with refrigerant R290, which is a highly flammable and explosive gas. During maintenance, it is important to ensure that it is performed by the qualified personnel in a qualified site. See above for details.

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer. Should repair be necessary, contact your nearest authorized service centre. Any repairs carried out by unqualified personnel may be dangerous.This appliance shall be stored in a well-ventilated area without ignition sources, and ensure that it meets the fire safety requirements for products charged with flammable refrigerant proposed by relevant countries, governments, and institutions. Do not pierce or burn.

As this appliance is filled with flammable gas R290, For repairs, strictly follow manufacturer's instructions. Be aware that refrigrants not contain odour.

If a stationary appliance is not fitted with a supply cord and a plug, or with other means for disconnection from the supply mains having a contact separation in all poles that provides full disconnection under overvoltage category III conditions, the instructions shall state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.A circuit breaker with leakage protection is required for the fixed line and shall be open in all poles with a breaking distance of at least 3mm for contacts.

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. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

This appliance shall not be installed indoor and shall be installed in a well-ventilated oudoor area.

This appliance shall be stored so as to prevent mechanical damage from occurring.

This machine is a hermetically sealed equipment.The annual refrigerant leakage of the whole unit is less than 1g. Its refrigerant charge is required on the nameplate.

⚠ NOTE	
	Appliance filled with flammable gas R290.
	Before use the appliance, read this Installer's Manual first.

To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is R290, which is specially cleaned.The refrigerant is flammable and inodorous. Furthermore, it can leads to explosion under certain conditions.

Compared to common refrigerants, R290 is a nonpolluting refrigerant with no harm to the ozonosphere. The influence upon the greenhouse effect is also lower. R290 has got very good thermodynamic features which lead to a really high energy efficiency. The units therefore need a less filling.

Before installation, please check if the adopted power is accordance with that listed on nameplate, and check the safety of power.

The unit shall contact with the supply mains by a full disconnection device under overvoltage category Ⅲ.

Before using, please check and confirm if wires and water pipes are connected correctly to avoid water leakage, electric shock or fire etc.

Don't operate the unit with wet hand, and don't allow children to operate the unit.

The On/off in the instruction is for the operation to on and off button of PCB for users; cut off power means to stop supplying power to the unit.

Don't directly expose the unit under the corrosive ambient with water or dampness.

Don't operate the unit without water in the unit. The air outlet/inlet of unit cannot be blocked by other objects.

The water in unit and pipeline should be discharged if the unit is not in use, to prevent the main unit, pipe line and water pump from frost-cracking.

Never press the screen of the control panel with sharp objects. Never use other wires instead of special communication line of the unit to protect control elements. Never clean the manual controller with benzene, thinner or chemical cloth to avoid fading of surface and failure of elements. Clean the unit with the cloth soaked in neutral eradicator. Slightly clean the display screen and connecting parts to avoid fading.

The power cord must be separated with the communication line.

Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorises their competence to handle refrigerants safely in accordance with an industry recognised assessment specification.

Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.

Maximum and minimum water operating temperatures

Item	Minimum water operating temperatures	Maximum water operating temperatures
Cooling	5°C	25°C
Heating	20°C	80°C*
Water heating	40°C	80°C**

Maximum and minimum water operating pressures

Item	Minimum water operating pressures	Maximum water operating pressures
Cooling	0.05MPa	0.25MPa
Heating		
Water heating		

Maximum and minimum entering water pressures.

Item	Minimum entering water pressures	Maximum entering water pressures
Cooling	0.05MPa	0.25MPa
Heating		
Water heating		

*: The leaving water temperature varies at different environment. 80°C is the highest leaving water temperature at -5~5°C ambient temperature.

**: When the electric heater for the water tank prepared by the user themselves has been activated, the leaving water temperature can go up to 80°C.

The range of external static pressures at which the appliance was tested (add-on heat pumps, and appliances with supplementary heaters, only); If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

The appliance is intended to be permanently connected to the water mains and not connected by a hose-set.

If there is any question, please contact with local dealer, authorized service center, agencies or our company directly.

⚠ WARNING

If any hot work is to be conducted on the refrigeration equipment or any associated parts, it must be ensured that the system is free of refrigerant and operated by qualified personnel in a qualified maintenance site with appropriate fire extinguisher.

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using flammable refrigerants:

– the ventilation machinery and outlets are operating adequately and are not obstructed;

– the equipment shall be installed outdoors with good ventilation, free of any ignition source and chemical contamination; and equipped with appropriate fire extinguisher. This equipment is strictly forbidden to be installed indoors.

– marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;

– refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include: that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking; that no live electrical components and wiring are exposed while charging, recovering or purging the system; that there is continuity of earth bonding.

During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.

Ensure that apparatus is mounted securely.

Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment.

Intrinsically safe components do not have to be isolated prior to working on them.

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.

Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

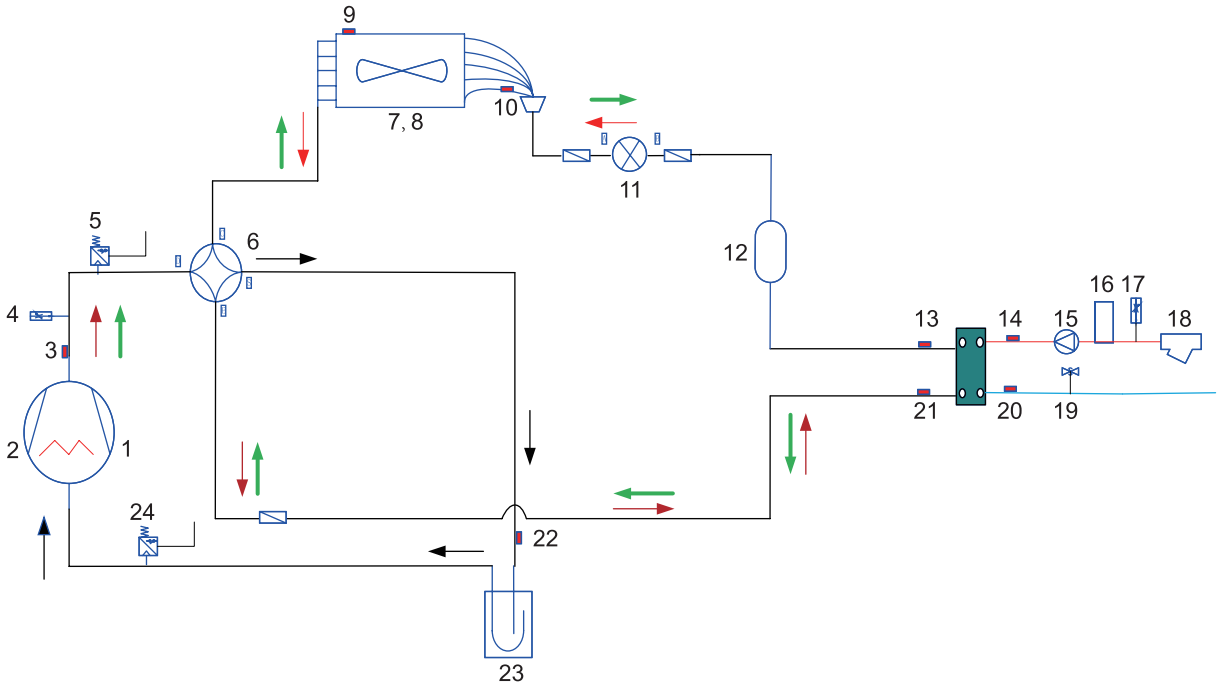
Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of ageing or continual vibration from sources such as compressors or fans.

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant. The insulation for fixed wiring must be protected by, for example, insulation sleeve with an appropriate temperature resistance level.

1. Diagram of the Operating Principle



Item	Description	Item	Description
1	Compressor	13	Liquid line temperature bulb
2	Electric heater for the compressor	14	Water inlet temperature bulb
3	Discharge temperature sensor	15	Water pump
4	High pressure switch	16	Expansion tank
5	High pressure sensor	17	Flow switch
6	4-way valve	18	Filter
7	Finned heat exchanger	19	Micro air bubble processor
8	Electric heater for the base	20	Water outlet temperature bulb
9	Ambient temperature sensor	21	Gas line temperature bulb
10	Defrosting sensor	22	Suction temperature bulb
11	Electronic expansion valve	23	Gas-liquid separator
12	Refrigerant receiver	24	Low pressure sensor

Note: it is the system schematic diagram. The manufacturer is committed to continuously improving this product to ensure the highest quality and reliability standards and to meet local regulations and market requirements. All features and specifications are subject to change without prior notice.

2. Operating Principle of the Unit

DC Inverter Air to Water Heat Pump is composed of outdoor unit, indoor unit and internal-fan coil water tank. Operation functions:

Item	Function	Item	Function
1	Cooling	10	Quiet mode
2	Heating	11	Disinfection mode
3	Water heating	12	Compensation mode
4	Cooling + water heating	13	Floor debugging
5	Heating + water heating	14	Air removal of the water system
6	Emergency mode	15	Other thermal
7	Fast hot water	16	Solar heating
8	Holiday mode	17	Zone control
9	Forced operation mode	18	Modularization

(1) Cooling: in the cooling mode, the refrigerant is condensed and evaporated at the heat exchangers of the main unit. Water lowers the temperature and releases heat, while refrigerant absorbs heat and evaporates. With the help of wired controller, the leaving water temperature can meet the needs of users. Through the control of the valve, the low-temperature water in the system is goes to the indoor fan coil units and underfloor coils, and exchanges heat with the indoor air to reduce the indoor temperature to the required range.

(2) Heating: in the heating mode, the refrigerant is condensed and evaporated at the heat exchangers of the main unit. Water absorbs heat and heats up, while refrigerant releases heat and condenses. With the help of wired controller, the leaving water temperature can meet the needs of users. Through the control of the valve, the high-temperature water in the system goes to the indoor fan coil units and underfloor coils, and exchanges heat with the indoor air to make the indoor temperature rise to the required range.

(3) Water heating: in the water heating mode, the refrigerant is condensed and evaporated at the heat exchangers of the main unit. Water absorbs heat and heats up, while refrigerant releases heat and condenses. With the help of wired controller, the leaving water temperature can meet the needs of users. Through the control of the valve, the high-temperature water in the system goes to the coils of the water tank, and exchanges heat with the water in the water tank, so that the water temperature inside the water tank rises to the required range.

(4) Cooling + water heating: when cooling mode exists together with the water heating mode, the user can set the priority of these two modes based on the needs. The default priority is heat pump. That is under the default setting, if cooling mode exists together with the water heating mode, the heat pump gives priority to cooling. In that case, water heating can only realized with e-heater of the water tank. Inversely, the heat pump gives priority to water heating and switches to cooling after finishing water heating.

(5) Heating+ water heating: when heating mode exists together with the water heating mode, the user can set the priority of these two modes based on the needs. The default priority is heat pump. That is under the default setting, if heating mode exists together with the water heating mode, the heat pump gives priority to heating. In that case, water heating can only realized with e-heater of the water tank. Inversely, the heat pump gives priority to water heating and switches to heating after finishing water heating.

(6) Emergency mode: this mode is only applicable to heating and water heating. When the main unit stops due to a fault, it enters the corresponding emergency mode. In the heating mode, once the unit goes to the emergency mode, heating can only be realized by the auxiliary electric heater of the main unit. When leaving water temperature set point or indoor temperature set point is reached, the auxiliary electric heater will stop working. In the water heating mode, the auxiliary electric heater of the main unit will stop working while the auxiliary electric heater of the water tank will work. When the temperature set point or water tank temperature is reached, this auxiliary electric heater will stop working.

(7) Fast hot water: at the fast hot water mode, the unit runs according to the water heating control of heat pump and the e-heater of water tank runs at the same time.

(8) Holiday mode: this mode is only available for heating mode. This mode is set to keep indoor temperature or leaving water temperature in a certain range, so as to prevent water system of the unit from freezing or protect certain indoor articles from freezing damage. When the outdoor unit stops due to malfunction, the two e-heaters of the unit will run.

(9) Forced operation mode: this mode is only used for refrigerant recovery and debugging for the unit.

(10) Quiet mode: this mode is available in cooling, heating and water heating modes. Once this mode has bee activated, the main unit will reduce the operating noise through automatic control.

(11) Disinfection mode: in this mode, the water heating system can be disinfected. When starting up the disinfection function and setting corresponding time to meet the requirement of disinfection mode, the function will start. After the setting temperature is reached, this mode will terminate.

(12) Compensation mode: this mode is only available for space heating or space cooling. At the compensation mode, the setting value (compensation value under the control of "T-room" or leaving water temperature) is detected and controlled automatically when the outdoor air temperature is changed.

(13) Floor commissioning: this function is intended to preheat the floor periodically for the initial use.

(14) Air removal of the water system: this function is intended to replenish water and remove air in the water system to make the equipment run at the stabilized water pressure.

(15) Other thermal: when the outdoor temperature is lower than the set point for starting other thermal and the unit is under the error condition and the compressor has stopped for three minutes, the other thermal will start to supply heat or hot water to the room.

(16) Solar heating: in the "**Water heating**" mode, this function can be turned on to convert solar energy into heat energy so as to produce hot water by this clean energy.

(17) Zone control: in the "**Cooling**" and "**Heating**" modes, this function can control the water temperature in different areas through the proportional control value.

(18) Modularization: this function is to meet the user's demand for the use of multiple units, which can work together through communication in the "**Cooling**", "**Heating"**, "**Water heating**", "**Heating + Water heating**", and "**Cooling + Water heating**" modes.

3. Nomenclature

G	RS	-	C	Q	16	Pd	/	Np	G	-	M
1	2		3	4	5	6		7	8		9

NO.	Description	Options
1	AlpicAir	G-AlpicAir Air to water heat pump
2	Heat Pump Water Heater	RS
3	Heating Mode	S= Static; C=Circulating
4	Function	Q=Multi-function; Omit=Single-function
5	Nominal Heating Capacity	4.0=4.0kW; 6.0=6.0kW; 8.0=8.0kW; 10=10kW; 12=12kW; 14=14kW; 16=16kW
6	Compressor Style	Pd=DC Inverter; Omit=On/Off
7	Refrigerant	Na=R410A; Nh=R32; Np=R290
8	Design Serial Number	G3,G4, G4 series is the same with G3 series but without the electric heater.
9	Power Supply	E/M=230/400V,~50Hz

Model Line-Up

Model	Heating*,kW	Power Input,kW	COP,W/W	Power supply
Model 4KW	4.5	0.87	5.2	230VAC,1Ph,50Hz
Model 6KW	6.2	1.24	5	
Model 8KW	8.4	1.68	5	
Model 10KW	10	2.105	4.75	
Model 12KW	12	2.424	4.95	
Model 14KW	14	2.978	4.7	
Model 16KW	15.5	3.298	4.7	
Model 8KW	8.4	1.68	5	400VAC,3Ph,50Hz
Model 10KW	10	2.105	4.75	
Model 12KW	12	2.424	4.95	
Model 14KW	14	2.978	4.7	
Model 16KW	15.5	3.298	4.7	

Model	Cooling**,kW	Power Input,kW	EER,W/W	Power supply
Model 4KW	4.5	0.797	5.65	230VAC,1Ph,50Hz
Model 6KW	6.2	1.192	5.2	
Model 8KW	8.3	1.596	5.2	
Model 10KW	10	2.083	4.8	
Model 12KW	12	2.608	4.6	
Model 14KW	14	3.255	4.3	
Model 16KW	15.5	3.523	4.4	
Model 8KW	8.3	1.596	5.2	400VAC,3Ph,50Hz
Model 10KW	10	2.083	4.8	
Model 12KW	12	2.608	4.6	
Model 14KW	14	3.255	4.3	
Model 16KW	15.5	3.523	4.4	

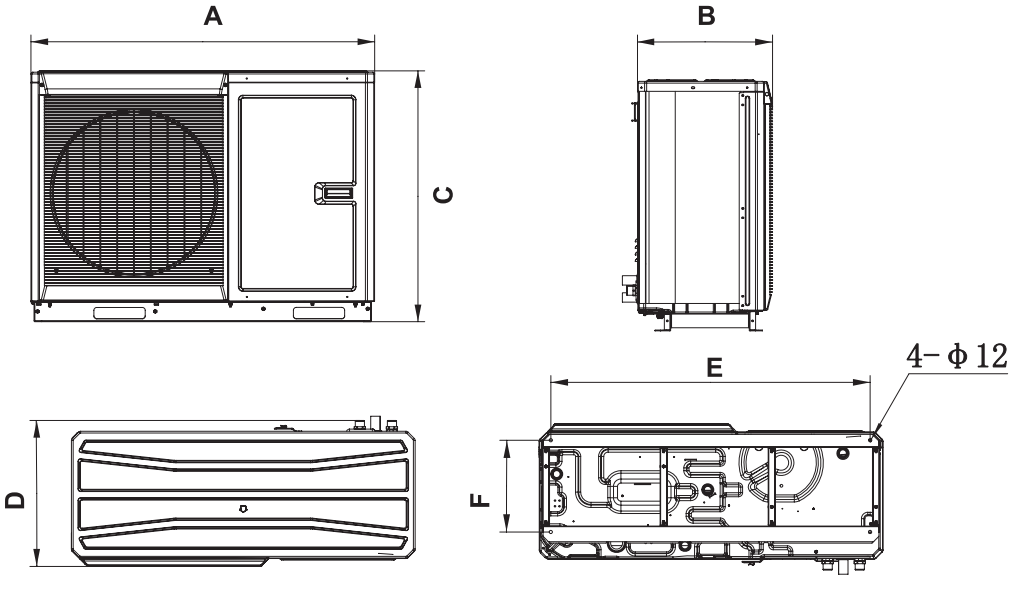
Notes

(a) *: Capacities and power inputs are based on the following conditions:
Entering/leaving Water Temperature 30°C/35°C, Outdoor Air Temperature 7°C DB/6°C WB;

(b) **:Capacities and power inputs are based on the following conditions:
Entering/leaving Water Temperature 23°C/18°C, Outdoor Air Temperature 35°C DB/24°C WB.

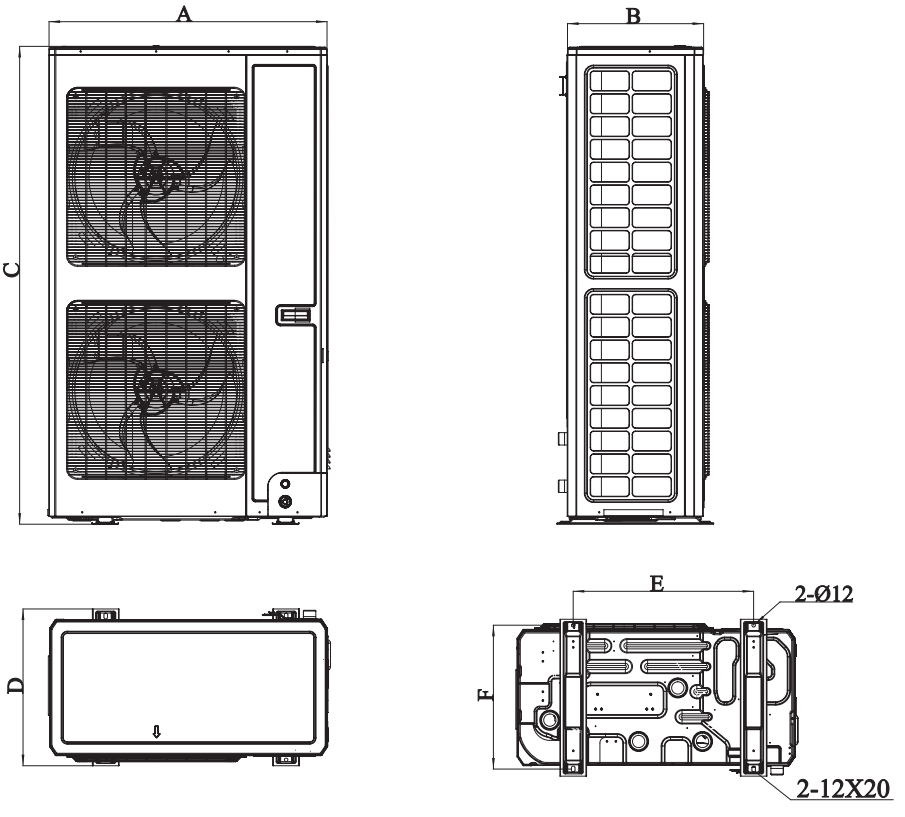
Mode	Heat Source Side Temperature (°C)	User Side Temperature (°C)
Heating	-25~35	20~80
Cooling	-15~48	5~25
Water Heating	-25~45	40~80

4. Outline Dimensions



Unit: mm

Model	A	B	C	D	E	F
4/6/8/10/12/14kW	1206	474	880	512	1120	322



Unit: mm

Model	A	B	C	D	E	F
16kW	940	460	1615	530	610	486

5. Installation Introduction to the Control Panel

There is a capacitor touch screen for the control panel, which is applicable to R290 series heat pump water heaters equipped with a certain number of temperature sensors for detecting ambient and water temperature etc., and pressure sensors as well. These detected data are used to control stable operation of the unit, and is displayed at the control panel in real time. Display interfaces and parameters will vary according to the functions of each model. For example, functions related to domestic hot water requires a water tank. Parameters are subject to the actual display.

5.1 Applicable Conditions

Do not use this product where:

(1) There is corrosive gas, heavy dust, salty frog, smog

(2) It is moist or there is direct sunlight

(3) There is high-temperature object or it likely suffers water splash.

5.2 Wiring Instructions

Interface	CN1	CN2
Description	Power supply interface, communication interface with the main board	Communication interface with other host computer

The standard length of the communication line is 8m. If it fails to meet the installation requirements of the control panel, please purchase one with the same materials on the market (reference specification: UL2464 26AWG; Port A:XH-4P-K3, with a locker and a keeper; Port B: ZHR-6). The longest communication line is allowed to be 30m.

5.3 Installation Instructions

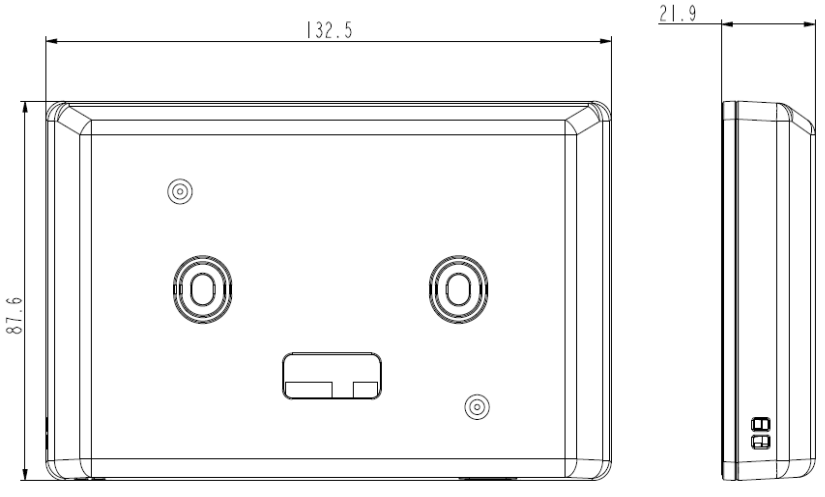


Figure 1-1 Outline Dimensions

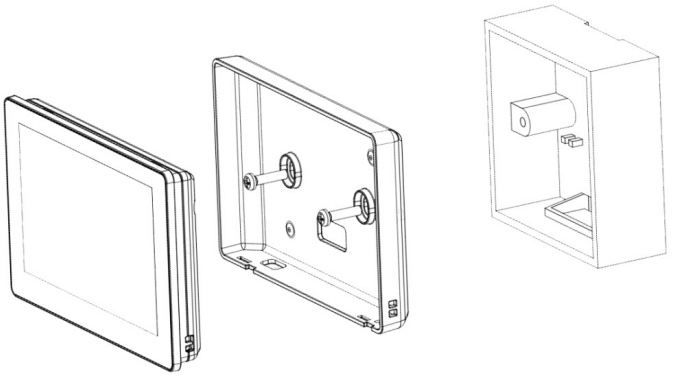


Figure 1-2 Installation Diagram

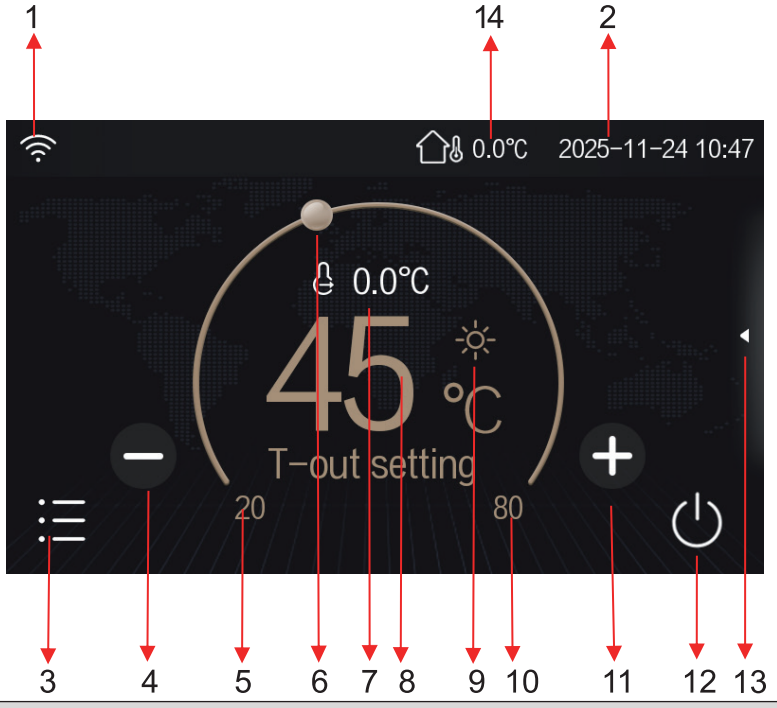
6 Operation Instructions to the Control Panel

6.1 Homepage

After the control panel is powered on, the system will go to initialization, the buzzer will sound within about 10 seconds, and then it will enter the home page.

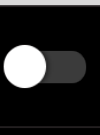
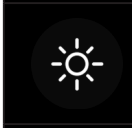
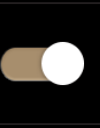
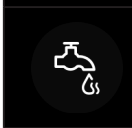
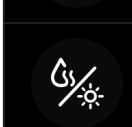
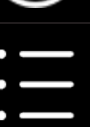
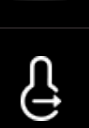
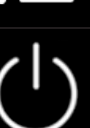
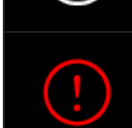
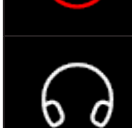
In the case of no touch operation for 10 consecutive minutes, the control panel will light off and automatically return to the home page. When it is touched under the light-off state, it will light up again.

When using the built-in temperature sensor of the control panel, the room temperature will be displayed as "-- °C" at the homepage within 35 seconds after power-on, and the temperature value will be displayed after 35 seconds. The accuracy of the detected temperature is related to the installation position of the control panel and whether the screen is lit for a long time. If the temperature difference is too large, it can be adjusted by setting the correction value.



No.	Name	Description
1	Status	It is the status of the unit.
2	Clock	It is the clock time.
3	Menu	It is used to go to the menu page.
4	Temperature control (-)	It is used to decrease the temperature target.
5	Minimum temperature	It is the minimum of the temperature target .
6	Temperature control knob	It is used to control the temperature quickly.
7	Leaving water temperature	When “Control mode” is set to “T-water out”, it will be displayed. In the “Heating” mode, if the auxiliary electric heater or backup heat source work, it is their leaving water temperature; if not, it is the leaving water temperature of the heat pump.
	Room temperature	When “Control mode” is set to “T-room”/“T-controller”, it will be displayed in the modes except “Water heating”.
	Water tank temperature	It will be displayed in the “Water heating” mode.
8	Temperature target	“Water heating” mode: it is the water tank temperature. “Heating” mode, “Heating + water heating” mode:t is the leaving water temperature for heating. “Cooling” mode, “Heating + water heating”mode:it is the leaving water temperature for cooling.
9	Mode	It is the current operating mode.
10	Maximum temperature	It is the maximum of the temperature target .

No.	Name	Description
11	Temperature control (+)	It is used to increase the temperature target.
12	Start/Stop	It is used to turn on or off the control panel.
13	Popup menu	By clicking it, you can quickly change settings of "Mode", "Quiet mode", and "Timer" etc.
14	Outdoor temperature	It is the temperature value detected by the outdoor temperature sensor.

Icon	Description	Icon	Description	Icon	Description	Icon	Description
	"Cool" mode		"Emergency heating"		Floor heating commissioning		Off
	"Heat" mode		Other thermal		Floor heating error		On
	"DHW" mode		Thermostat		Back		Unselected
	"Cool+DHW" mode		SG		Homapge		Selected
	"Heat+DHW" mode		EVU		OK		Delete
	"Cool+DHW" mode (Priority to "DHW")		Optional electric heater		Cancel		Paremeter Setting
	"Heat+DHW" mode (Priority to "DHW")		Water tank electric heater		Menu		Check
	Timer		Leaving water temperature		Stop		System setting
	Error		Water tank temperature		Start		Edit
	"Quiet mode"		Remote room temperature/ Controller temperature		Decrease		Delete
	"Holiday mode"		"Gate control"-card out		Increase		Delete
	"Disinfection" mode		Defrosting state		Error guide		Solar
	Compensation mode		Wi-Fi		Mode setting		Fast DHW

Icon	Description	Icon	Description	Icon	Description	Icon	Description
	Modular control		Zone control		Select all		Deselect all
	Compensation mode curve						

6.2 Start/Stop

It locates at the right lower corner of the home page and is used to start or stop the control panel.

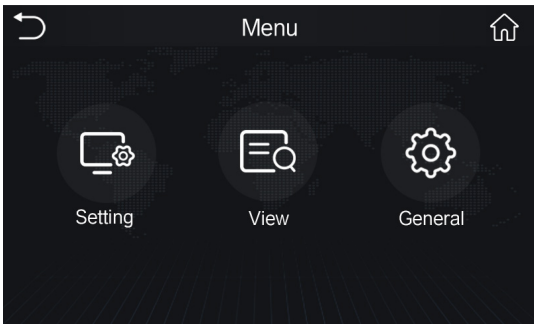
It indicates the control panel is turned off.

It indicates the control panel is turned on.

The control panel is not allowed to be started when “Thermostat”, “Holiday mode”, “Emergency heating" works or the card for “Gate control” is drawn out.

6.3 Menu

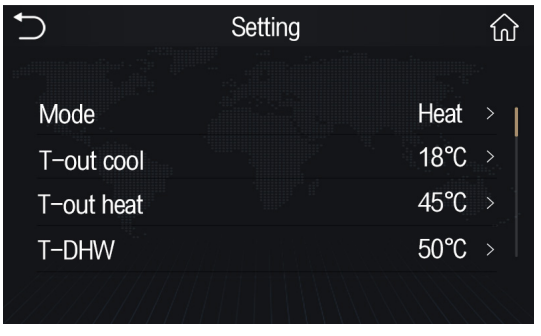
By clicking , the control panel will go to the menu page, which categorizes parameters into three types.



No.	Menu Type	Description
1	Setting	It indicates operating parameters.
2	View	It indicates status parameters.
3	General	It indicates parameters of the control panel itself.

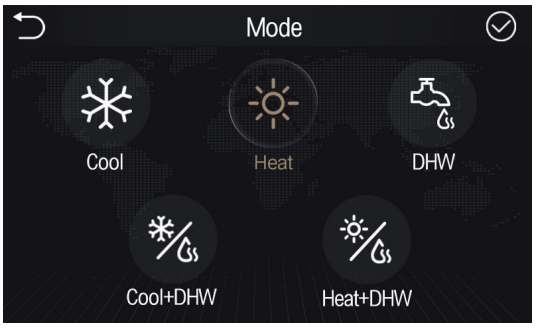
6.4 Parameter Setting

At the the “Setting” page, parameters can be switched over by sliding the finger up and down in the middle area of the screen, and it is the same for other pages. Unless specified specially, parameter settings are defaulted to be memorized upon power failure.



No.	Item	Range	Default	Description
1	Mode	Cool	Heat	The“Cool+DHW” and “Heat +DHW”modes are unavailable if the water tank is not configured. The “Cool” and “Cool+DHW”modes are unavailable for the heating only unit.
		Heat		
		DHW		
		Cool+DHW		
		Heat+DHW		
2	T-out cool	5~25°C	18°C	It is unavailable for the heating only unit.
3	T-out heat	20~80°C	45°C	
4	T-DHW	40~80°C	50°C	It is unavailable if the water tank is not configure.
5	T-room cool	18~30°C	24°C	
6	T-room heat	18~30°C	20°C	
7	Cool+DHW	Cool/DHW	DHW	It is unavailable if the water tank is not configure.
8	Heat+DHW	Heat/DHW	DHW	It is unavailable if the water tank is not configure.
9	Fast DHW	On/Off	Off	It is unavailable if the water tank is not configured.This function will make the temperature of the water tank reach the target quickly through the electric heater of the water tank.
10	Quiet mode	On/Off/Timer	Off	
11	Timer	/	/	Time, day and operation mode can be set for start/stop.
12	△ T-Cool	2~10°C	5°C	
13	△ T-Heat	2~10°C	10°C	
14	△ T-DHW	2~25°C	2°C	
15	△ T-Room	1~5°C	2°C	
16	Compensation mode	On/Off	Off	
17	Disinfection	On/Off	Off	It is unavailable if the water tank is not configure.
18	Holiday mode	On/Off	Off	
19	Zone control	On/Off	Off	
20	Wi-Fi reset	/	/	It is to reset the Wi-Fi configuration.
21	Emergency heating	On/Off	Off	This function is only available when a electric heater or backup heat source is configured, or the unit operates under the "DHW", "Cool+DHW" or "Heat+DHW" mode.
22	Commissioning	/	/	Only professional personnel is allowed!

6.4.1 Mode



Unselected mode icons are white and the selected are brown. After the mode is selected, it needs to be determined by clicking at the upper right corner.

(1) The“Cool+DHW” and “Heat +DHW”modes are unavailable if the water tank is not configured;

(2) The “Cool” and “Cool+DHW”modes are unavailable for the heating only unit.

6.4.2 Temperature

For the temperature setting, a keyboard input page will pop up. The top displays the parameter name, the left side displays the range of the parameter, and the right displays the current value of the parameter.



The temperature “Range” allows no negative numbers (“-” can not be input) and the parameter precision is “1” (“.”can not be input).

The outlet water temperature (room temperature setting) works only when “Control mode” is set to “T-water out” (”T-room”).

6.4.3 Priority



The combination mode is controlled by modifying the priority. The selected will be in brown and will be saved by clicking .

When “DHW” takes the priority, the heat pump will be used to heat the domestic hot water and then go to space cooling or heating after the domestic hot water reaches the target point.

When “Cool” or “Heat” takes the priority, the heat pump will be used for space cooling or heating, and domestic hot water is heated by the electric heater of the water tank.

6.4.4 Fast hot water

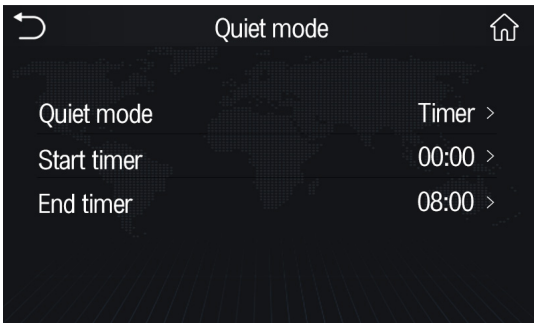
This function will make the temperature of the water tank reach the target quickly through the electric heater of the water tank.

6.4.5 Quiet mode

When the unit is operating in the “Quiet" mode, the operation noise will be reduced by limiting the frequency of the compressor and also the fan speed.

"On": When ”Quiet mode” is set to “On”, the unit will operate in Quiet mode after startup. The Quiet mode will be automatically deactivated after shutdown.

“Timer”: when “Quiet mode” is set to “Timer”, you can set the "Start timer" and "End timer" of the Quiet mode. When the system time falls within the interval between the "Start timer" and "End timer", the Quiet mode will be automatically activated; when the system time falls outside the interval, the Quiet mode will be automatically deactivated.



Note: the “Quiet” mode will limit the action of the unit load,degrade the cooling, heating or water heating performance, and lower the output capacity.

6.4.6 Timer

Up to 5 Timers can be set, and each timer can set the “Start timer”, “End timer”, “Mode" , “T heat setting" , " ☐ ", and “Period”.

“Start timer”: it is the start time for this timer.

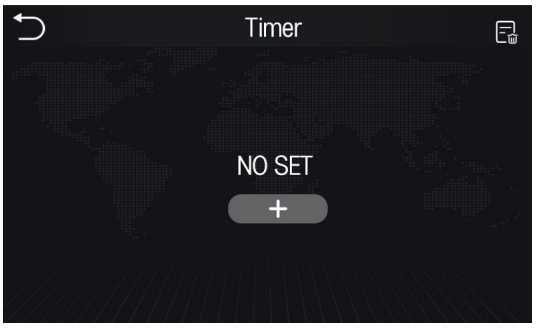
“End timer”: it is the end time for this timer.

“Mode”: it is the operation mode for this timer.

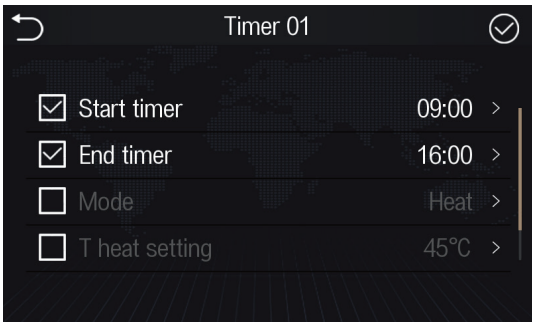
“T heat setting”: it is the target temperature of this "Period".

" ☐ ": the following option can be activated by checking it. The settings will not take effect until they are activated.

“Period”: it is the day on which this timer works. Multiple days are allowed. When no day is selected, this "Timer" will be executed only once by default.

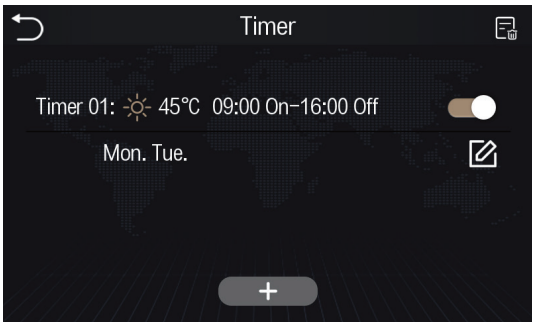


Click “+”to add more timers.

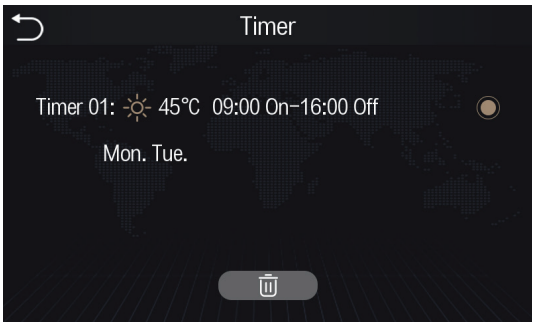




Set the time by sliding up and down. After it, click to save this setting.



Go back to the “Timer” page, activate “Timer 01” and this setting is finished. After this, you can reset it by clicking or go to the deletion page by clicking .



Select the timer to be deleted and click .

As stated above, the unit will start in the “Heat” mode at 9:00 a.m. on Monday and Tuesday with 45°C target temperature and it will shut down at 16:00 on these two days.

The operation logic is to judge the time first and then consider the timer order.

● If “Start timer” and “End timer”are the same, “End timer” takes the priority.

● If settings of two timers overlap, for example, “Timer 1”is 10:00 to 12:00 for heating, “Timer 2” is 9:00 to 11:00 for cooling, the unit will start cooling at 9:00, start heating at 10:00, and shut down at 11:00.

● Except the “Mode” setting, if others settings of the two timers are the same, for example, “Timer 1” is 10:00 to 12:00 for heating, “Timer 2” is 10:00 to 12:00 for cooling, then the unit will start cooling at 10:00 and shut down at 12:00.

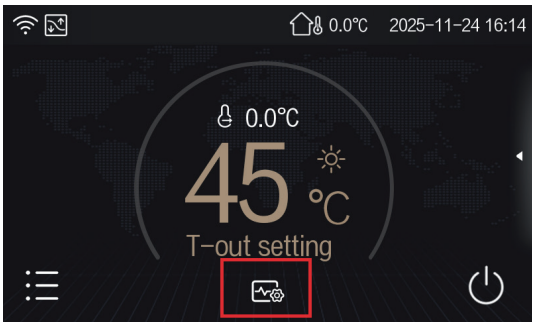
● This setting does not work under the “Emergency heating, “Holiday mode”, and “Thermostat” modes.

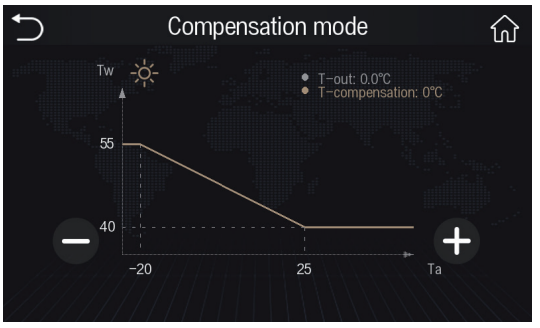
6.4.7 Compensation mode

At the “Compensation mode” setting page, you can set the following temperature.

Full name	Displayed name	Range	Default
Upper limit of ambient temperature for space heating	Upper AT-Heat	10~37°C	25°C
Lower limit of ambient temperature for space heating	Lower AT-Heat	-20~9°C	-20°C
Upper limit of ambient temperature for water heating	Upper WT-Heat	20~80°C	55°C
Lower limit of ambient temperature for water heating	Lower WT-Heat	20~ 80°C	40°C
Upper limit of room temperature for space heating	Upper RT-Heat	22~30°C	24°C
Lower limit of room temperature for space heating	Lower RT-Heat	18~21°C	18°C
Upper limit of ambient temperature for space cooling	Upper AT-Cool	26~48°C	40°C
Lower limit of ambient temperature for space cooling	Lower AT-Cool	10~25°C	25°C
Upper limit of water temperature for space cooling	Upper WT-Cool	5~25°C	15°C
Lower limit of water temperature for space cooling	Lower WT-Cool	5~25°C	7°C
Upper limit of room temperature for space cooling	Upper RT-Cool	24~30°C	27°C
Lower limit of room temperature for space cooling	Lower RT-Cool	18~23°C	22°C
Compensation mode deviation enabled	△ T enable	Off/On	Off
Deviation of water temperature for space heating	△ AT-Heat	Calculated basded on "Upper AT-Heat" and "Lower AT-Heat"	0°C
Deviation of water temperature for space cooling	△ AT-Cool	Calculated basded on "Upper AT-Cool" and "Lower AT-Cool"	0°C

After “Compensation mode” has been activated,“T-out setting” will go invalid and the unit will be controlled by "T-compensation”. when “ΔT enable” has been activated, the curve for the compensation mode may be slightly changed. You can enter the curve viewing page through at the homepage, and move the curve left or right through +/-. At this time, the temperature deviation value is adjusted, that is, "AT-Heat" or "AT-Cool". The actual upper and lower limits of the ambient temperature of the unit are the upper and lower limits of the ambient temperature plus the deviation, and the adjusted value will not exceed the range of the upper and lower limits of the ambient temperature.





Control by T-controller/T-room: the room temperature setting is maintained constant, and the target leaving water temperature of the unit changes with the ambient temperature.

Note:this function is only valid for the space heating or cooling. When the operation mode is water heating, it does not work.

6.4.8 Disinfection

The function is to heat domestic water in the water tank and kill bacteria through high temperature.

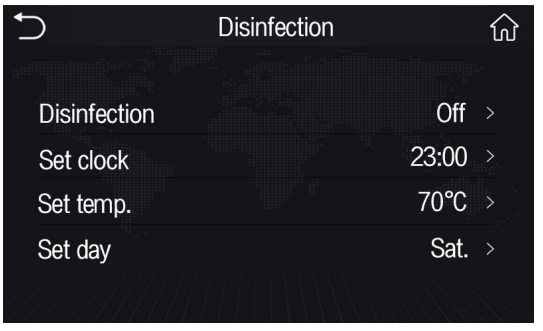
“Disinfection”:it is to activate or deactivate this function.

“Set clock”:it is to set the start time for disinfection.

“Set temp”:it is the target temperature for disinfection.

“Set day”:it is to set on which day to run this function.

The disinfection icon will be displayed only when the unit is operating in this mode. After this function has been activated, it will work once a week at the same time.



Notes:

● This function is unavailable when “Holiday mode” has been activated.

● It can be activated no matter when the control panel is turned on or off , and the “DHW” mode takes the priority.

● When it has been activated, but disinfection conditions are not met, such as in case of the water tank temperature sensor error, this function fails.

●If the disinfection mode does not exit after 10 hours of accumulated operation, or in case of the water tank temperature sensor error, a prompt will pop up at the control panel to remind of disinfection failure.

6.4.9 Holiday mode

This function allows the unit operate in a energy saving manner to maintain a certain temperature inside the room and avoid freezing the pipeline system.

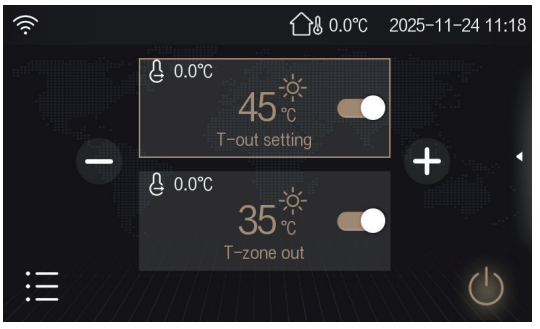
● This function can only be activated when the control panel has been turned on.

● When this function has been activated, the operation mode will automatically be turned to “Heat”, and settings of “Mode”, Start/Stop, “T-out setting”, “T-room setting”, “Disinfection”, and “Timer” will go to be invalid.

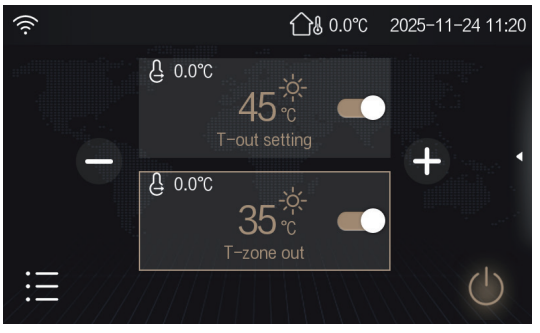
6.4.10 Zone control

The zone control function can adjust the mixing water ratio by controlling the opening of the proportional valve to achieve different leaving water temperature.

After this function has been activated, the target temperature at two zones can be set at the homepage respectively and independently. When this function is deactivated for some zone, the setting for this zone does not work. When the main unit is turned on, this function will be activated for both zones by default.



The upper box at the home page indicates the main area, and the lower box is the non-main area. The temperature setpoint is in the middle of each area, and the area with a frame means that the temperature setpoint of this area can be adjusted by "+/-", and the area to be set can be selected by clicking the middle part of each box. If you need to adjust the temperature of the non-main area, you can click the lower box. At this time, the frame will move to the lower box, and then adjust the temperature of this area through "+/-", as shown in the following figure:



● This function is only valid for space heating or cooling. When the operation mode is water heating, it does not work.

● After “Holiday mode” has been activated, it does not work.

● Under the space heating mode,the setting temperature for zone control cannot be higher than “T-out setting”; under the space cooling mode, the setting temperature for zone control cannot be lower than “T-out setting”.

6.4.11 Wi-Fi reset

It is available for units with the Wi-Fi function. This function is used to reset the Wi-Fi configuration and is typically used when the network is first used or replaced. If you do not want to continue using the Wi-Fi function, you can clear the data stored in the device by this function.

By default, the bluetooth module is waiting for connecting and will stop broadcasting when matching has been completed.

Interpretation of the Wi-Fi indicator	
Normally ON	It indicates successful connection.
Normally OFF	It indicates disconnection or connection fault.
ON for 0.5 seconds and OFF for 0.5 seconds	It indicates waiting for connection, Wi-Fi sending out a hotspot.
ON for 2 seconds and OFF or 2 seconds	It indicates that it has been connected and Wi-Fi is connecting to the router.
Flash for 3 seconds and OFF for 3 seconds	It flashes for 0.5 seconds ON and 0.5 seconds OFF in turn. It indicates a Wi-Fi fault. And 5 minutes later, it will turn normally OFF.

6.4.12 Emergency heating

It is only available when other thermal or optional electric heater is configured. When the unidt fails to start normally, this function will use either of them for heating.

● It can not be set when the control panel is turned on or “Disinfection”, “Holiday mode’, or “Thermostat” has been activated.

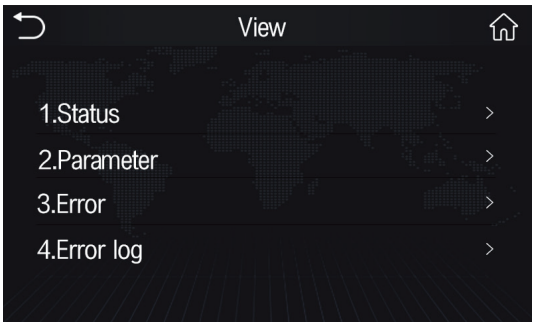
● It can not be set in case of the water tank temperature sensor error, flow switch protection under for heating, or leaving water temperature sensor error for the auxiliary electric heater , and the control panel prompts "The system is faulty!".

● It is only available for the “Heat”, “DHW”, "Cool+DHW"", and "Heat+DHW" modes; otherwise the control panel prompts "Wrong running mode!".

6.5 View

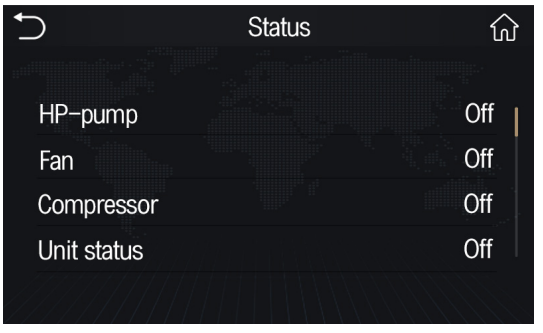
By clicking “View”, go to the “View” page for the information as stated in the table below:

1	Status	Load status
2	Parameter	Temperature
3	Error	Real-time errors and the current error will be in orange.
4	Error log	Historical errors



6.5.1 Status

By clicking “Status”, go to the “Status” page for the information as shown below.



No.	Item	Options	Remarks
1	HP-pump	On/Off	
2	Fan	On/Off	
3	Compressor	On/Off	
4	Unit status	Off/Cool/Heat/DHW	
5	Tank heater	On/Off	Unavailable when the water tank is not configured.
6	3-way valve 1	On/Off	Unavailable when the 3-way valve is not configured.
7	3-way valve 2	On/Off	
8	Crankc. heater	On/Off	
9	HP-heater 1	On/Off	
10	HP-heater 2	On/Off	
11	Chassis heater	On/Off	
12	Plate heater	On/Off	
13	Defrost	On/Off	
14	Oil return	On/Off	
15	Thermostat	Off/Cool/Heat/DHW/ Cool+DHW/Heat+DHW	Unavailable when “Thermostat”is “Off”.
16	Other thermal	On/Off	Unavailable when the heat source has not set to “Other thermal”.
17	2-way valve	On/Off	
18	HP-Antifree	On/Off	
19	Solar antifree	On/Off	Displayed when this function has been activated.
20	Gate control	Card in/Card out	Unavailable when this function has been deactivated.
21	4-way valve	On/Off	
22	Disinfection	Off/Running/Done/Fail	Unavailable when the water tank is not configured.
23	Flow switch	On/Off	
24	Tank Pump	On/Off	Unavailable when the water tank is not configured.
25	SG signal	On/Off	Unavailable when the SG function has been deactivated.
26	EVU signal	On/Off	Unavailable when the SG function has been deactivated.
27	SG	On/Off	Unavailable when the SG function has been deactivated.
28	Backup pump	On/Off	
29	Zone pump	On/Off	Displayed when this function has been activated.
30	Reserved pump	On/Off	

6.5.2 Parameter

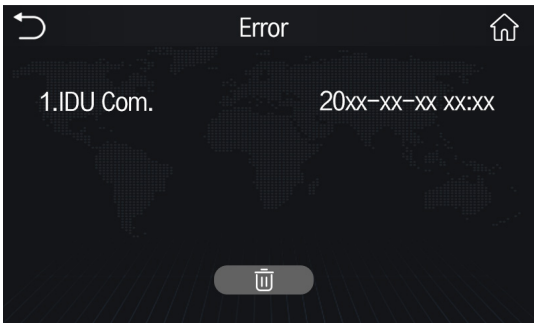
By clicking “Parameter”, go to the parameter status page as shown in the figure below.



No.	Full Name	Displayed Name	Remarks
1	Leaving water temperature of the plate heat exchanger for the heat pump	T-out	
2	Entering water temperature of the plate heat exchanger for the heat pump	T-in	
3	Water tank temperature	T-tank	Unavailable when the water tank is not configured.
4	Leaving water temperature of the electric heater for the heat pump	T-optional out	Unavailable when the heat source is not configured.
5	Ambient temperature	T-outdoor	
6	Defrosting temperature	T-defrost	
7	Suction temperature	T-suction	
8	Discharge temperature	T-discharge	
9	Gas line temperature	T-gas pipe	
10	Liquid line temperature	T-liquid pipe	
11	Discharge pressure	Dis. Pressure	
12	Water pump water flow feedback	Water flow	
13	Real-time COP	Real-time COP	It will be displayed when this function is available.
14	Remote room temperature	T-remote room	Unavailable when the room temperature is not configured.
15	Controller temperature	T-controller	It will be displayed only when the control mode is "Controller temperature".
16	"Compensation mode" temperature target	T-compensation	Displayed when "Compensation mode" has been activated.
17	“Floor heating” temperature target	T-floor heating	Unavailable when the “Floor heating” function has been deactivated.
18	“Floor heating” runtime	Floor heating time	Unavailable when the “Floor heating” function has been deactivated.
19	Partition control Ratio valve output	Zone valve ctrl	Displayed when "Zone control" has been activated.
20	Zone control water outlet temperature	T zone out	Displayed when "Zone control" has been activated.
21	Solar outlet water temperature	T-solar out	Displayed when "Solar setting" has been activated.
22	Low pressure	Low pressure	
23	Indoor unit version	In-board version	
24	Outdoor unit version	Out-board version	

6.5.3 Error Event

By clicking “Error”, go to the error page for real-time errors as shown in the figure below.



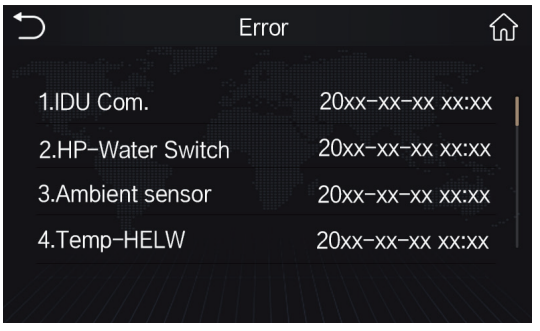
No.	Full Name	Displayed Name	Error Code
1	Ambient sensor error	Ambient sensor	F4
2	Defrost sensor error	Defrost sensor	d6
3	Discharge sensor error	Discharge sensor	F7
4	Suction sensor error	Suction sensor	F5
5	Fan error	Outdoor fan	EF
6	High pressure sensor error	HI-pre. sens.	Fc
7	High pressure protection	High pressure	E1
8	Low pressure protection	Low pressure	E3
9	High discharge protection	Hi-discharge	E4
10	Capacity DIP setting error	Capacity DIP	c5
11	Communication error between indoor and outdoor units	ODU-IDU Com.	E6
12	Communication error between the outdoor board and the drive board	Drive-main com.	P6
13	Low pressure sensor error	Low-pre. Sens.	dL
14	Communication error between the control panel and the indoor board	IDU Com.	E6
15	Leaving water temperature sensor error of the plate heat exchange for the heat pump	Temp-HELW	F9
16	Leaving water temperature sensor error of the auxiliary electric heater for the heat pump	Temp-AHLW	dH
17	Refrigerant liquid line temperature sensor error	Temp RLL	/
18	Entering water temperature sensor error of the plate heat exchange for the heat pump	Temp-HEEW	F1
19	Water tank temperature sensor error	Tank sens.	FE
20	Refrigerant gas line temperature sensor error	Temp RGL	F0
21	Remote room temperature sensor error	T-Remote Air	F3
22	Communication error between indoor and outdoor units	ODU Com.	E6
23	Jumper error	Jumper cap Error	c5
24	Welding protection for the heat pump auxiliary electric heater 1	Auxi. heater 1	EH
25	Welding protection for the heat pump auxiliary electric heater 2	Auxi. heater 2	EH
26	Welding protection for the water tank electric heater	Auxi. -WTH	EH
27	Heat pump flow switch error	HP-Water Switch	Ec
28	4-way valve error	4-way valve	U7

No.	Full Name	Displayed Name	Error Code
29	DC busbar under-voltage or voltage drop error	DC under-vol.	PL
30	DC busbar over-voltage	DC over-vol.	PH
31	AC current protection (input)	AC curr. pro.	PA
32	IPM error	IPM defective	H5
33	PFC error	PFC defective	Hc
34	Start failure	Start failure	Lc
35	Drive board resetting	Driver reset	P0
36	Compressor over-current	Com. over-cur.	P5
37	Current detection circuit error or current sensor error	Current sen.	Pc
38	Desynchronizing	Desynchronize	H7
39	Radiator or IPM or PFC over-temperature	Overtemp.-mod.	P8
40	Radiator or IPM or PFC temperature sensor error	T-mod. sensor	P7
41	Charging circuit error	Charge circuit	Pu
42	AC input voltage error	AC voltage	PP
43	Floor heating commissioning error	Floor heating unusual	/
44	Leaving water temperature sensor error of the two zone kit	Zone sensor	/
45	Leaving water temperature sensor error of the solar kit	Solar sensor	/
46	Controller temperature sensor error	Controller sensor	/

By clicking  , a prompt will pop up to confirm if to detect the error again.

6.5.4 Error Log

By click “Error Log”, go to the error record page as shown in the figure below.



Notes:

●The error log can record 20 pieces of information, and each includes the error name and occurrence time;

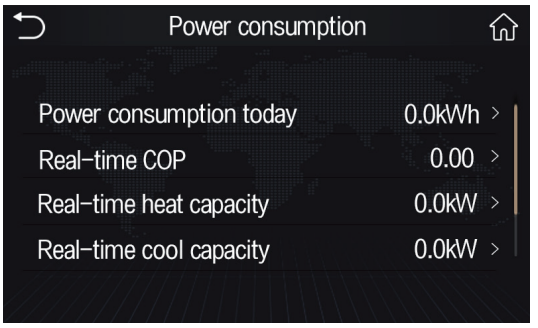
● When the number of error logs reaches 20, the latest fault record will overwrite the earliest.

6.5.5 Power Consumption

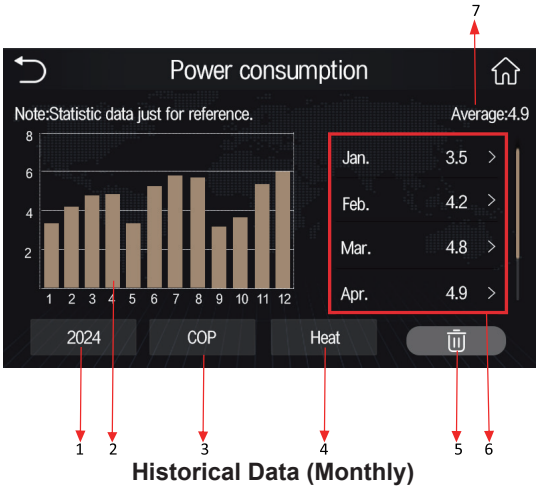
For some units that support check on power consumption, it can be viewed as shown in the figure below. When the amount of data is large, it takes time to load the data, and the corresponding prompt will pop up to remind you to try again later.



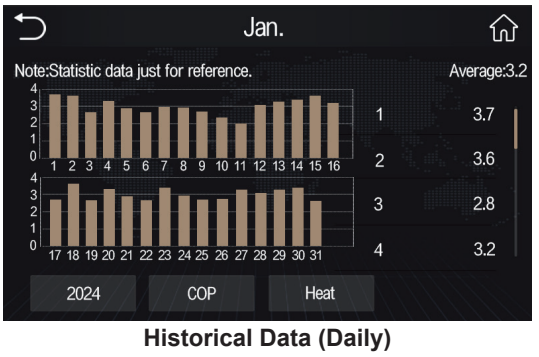
After entering the “Power consumption” page, you can view real-time data.



Click each option to view historical data.



Historical Data (Monthly)



Historical Data (Daily)

No.	Name	Monthly	Daily
1	Year	Select the expected year, which can be this year, last year, or the year before last.	
2	Data Histogram	Data-Month histogram	Data-Day histogram
3	Data type	Select the type of data, which can be total power consumption, single-mode power consumption, total heating (cooling) capacity, average COP, and CO2 emissions.	
4	Mode	The corresponding mode should be selected for the single-mode power consumption, total heating (cooling) capacity, and average COP.	

5	Delete	By clicking the delete icon and then clicking "√" at the prompt box , data will be deleted. Note: this operation is to delete all recorded data in the past three years and cannot be recovered. Please do it careful.	/
6	Data value	You can slide this area to view the monthly value of the whole year. By clicking the expected month, you can enter the daily report of this month.	You can slide this area to view the daily value of the whole month.
7	Total/Average	When the data type is power consumption, Heating (cooling) capacity, CO2 emission, it indicates the annual total. When the data type is COP, it indicates the annual average.	When the data type is power consumption, Heating (cooling) capacity, CO2 emission, it indicates the monthly total. When the data type is COP, it indicates the monthly average.

Note: the data is obtained by calculation, and there is some deviation with the actual, which is for reference only. Data is stored only on the control panel other than the server, and it can only be deleted by the display panel. If you do not need this function, please contact the service provider.

6.6 General Setting

At the menu page, by touching “General”, the control panel will go to the setting page, as shown in the figure below, where it is able to set “System time”, “Reset”, “On/off memory, and “Sound”.



No.	Item	Range	Default	Remarks
1	Child lock	On/Off	Off	When this function is "On" and there is no touch operation within 10 seconds at the homepage, key operation will automatically be locked. In this case, the child lock icon will be displayed. Short press of any key will be invalid and the child lock icon will flash. Pressing and holding the Menu key for 5 seconds will temporarily unlock it. If there is no key operation within 10 seconds at the home page, it will be locked again.
2	Language	/	English	/
3	System time	/	/	It is used to set the system clock, which is the basis for the timer function. The time at the upper right corner will be synchronized only after the system time is set for the first time.
4	Reset	/	/	It is used to reset all user-oriented parameters and can be set when the control panel is turned off.
5	Daylight saving time	On/Off	Off	When this function is "**On**", the system clock will get "**Advance/delay duration**" later at the "**Conversion time**" in the early morning of the last Sunday in March of each year, and will get "**Advance/delay duration**" earlier at the "**Convention time**" in the early morning on the last Sunday of October.
		Advance/delay duration: 0.5h/1h/1.5h/2h/2.5h/3h	1h	
		Convention time: 00:00/01:00/02:00/03:00	02:00	

No.	Item	Range	Default	Remarks
6	Celsius(°C)/ Fahrenheit(°F)	°C/°F	°C	When **"°C/°F"** is selected, all temperatures on the controller are displayed in Celsius or Fahrenheit.
7	On/off memory	On/Off	On	It is used to memorize the status before power failure and restore it upon power recovery.
8	Alarm sound	On/Off	On	When the temperature of the water tank is higher than 82°C, or when welding protection for the auxiliary electric heater occurs, the wired controller will sound an alarm. This setting allows you to switch on or off the alarm sound.
9	Sound	On/Off	On	It is used to make sound effect for touch operation.
10	Version	/	/	It is used to check the program and protocol versions.


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