

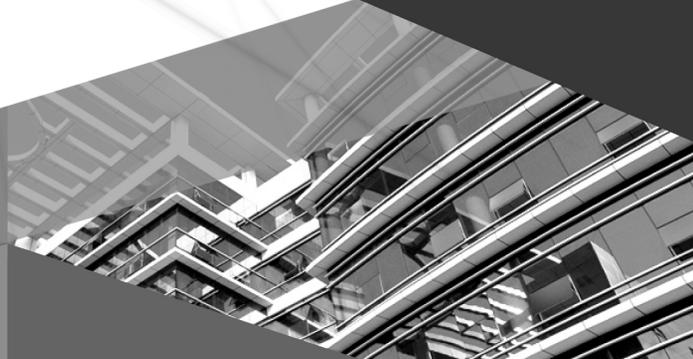


# ***Owner's Manual***

**Original Instructions**   
Air Conditioners

Group Controller for ATW Heat Pumps

Thank you for choosing air conditioners. Please read this Owner's Manual carefully before operation and retain it for future reference.



## To Users

Thank you for selecting this 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 instruction manual is a universal manual, some functions are only applicable to particular product. All the illustrations and information in the instruction manual are only for reference.
- (2) 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.
- (3) For personal injury or property loss and damage caused by improper operation such as improper installation and debugging, unnecessary maintenance, violation of related national laws and rules and industrial standard, and violation of this instruction manual, etc., we will bear no liability

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## **Safety Notices (Please be sure to abide)**

Do not install the control where it is damp or exposed to direct sunlight.

Once the air conditioning unit is installed where possibly subject to electromagnetic interference, shielded twisted pairs should be used as signal lines and other communication lines.

Be sure communication lines are wired to the correct ports, or normal communication would fail.

Do not beat, toss or frequently assemble and disassemble this control.

Do not operate the control with wet hands!

## 1. General

This group controller is intended to control a group of ATW heat pumps. At most 4 standard heat pumps are allowed for one group controller. Under the group control, on/off, mode and temperature operations depend on the group controller other than the standard submodule control panel which is only for data viewing and commissioning.

Subject to update, functions would vary for the group controller and the submodule control panel, however their normal use would not be affected.



(This picture is just for reference)

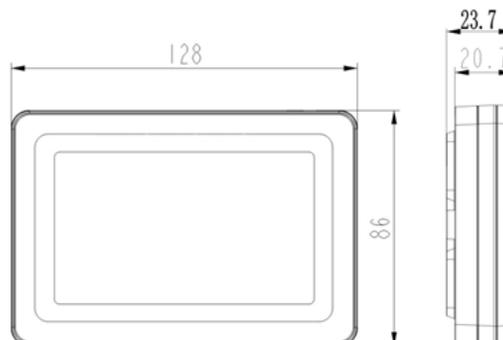
Figure 1-1 Group Controller

This display panel uses the capacitor touch screen for input operation. The valid touching area indicates the black rectangle when the control panel lights off.

This control panel is of high sensitivity and will respond to unexpected click by the foreign matters on the display panel. Therefore, please keep it clean during operation.

No.	1	2	3	4	5	6
Name	Touch screen	Communication interface board	Mounting plate	2-core line (8m) C	2-core line (8m) B	4-core line (8m) A
Quantity	1	1	1	4	1	1

### 1.1 Outline Dimensions



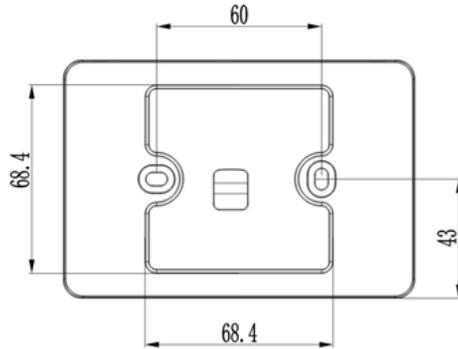


Figure 1-2 Outline Dimensions

### 1.2 Requirements on Ambient Conditions

Do not use this product in the following environments:

- (1) Where there is corrosive gas or serious dust, salt spray, and oil smoke.
- (2) Where it is damp or there is direct sunlight.
- (3) Where it is close to high-temperature objects or splash water.

## 2. Wiring Instructions

### 2.1 Wiring Diagram



Figure 2-1 Wiring Diagram of the Submodule Control Panel

No.	②	①
Port	CN2	CN4
Description	Reserved	For power supply and communication

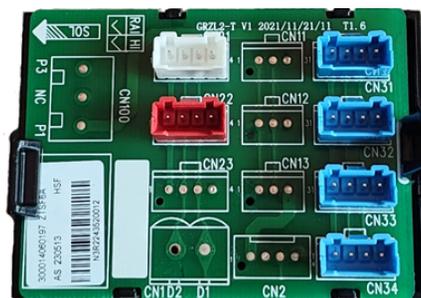


Figure 2-2 Wiring Diagram of the Communication Interface Board

Port	CN21	CN22	CN31~CN34
Description	Power supply input	Power supply output for power supply and communication to the group controller	Communication between the group controller and the submodule control panel

Do not install and use the communication interface board in a humid environment.

### 2.2 Power Supply Mode

- (1) Powered by the heat pump: connect the main board CN8 of any heat pump to the communication interface board through the 2-core communication cable B, and then connect the communication interface board to CN4 of the group controller through the 4-core communication cable A.

- (2) Independent power supply: provides 12V DC to the communication interface board through the 2-core communication cable B, and connects the communication interface board to CN4 of the group controller through the 4-core communication cable A.

### 2.3 Communication Connection

Connect the patching board to the submodule control panel CN2 of each heat pump through the 2-core cable C.

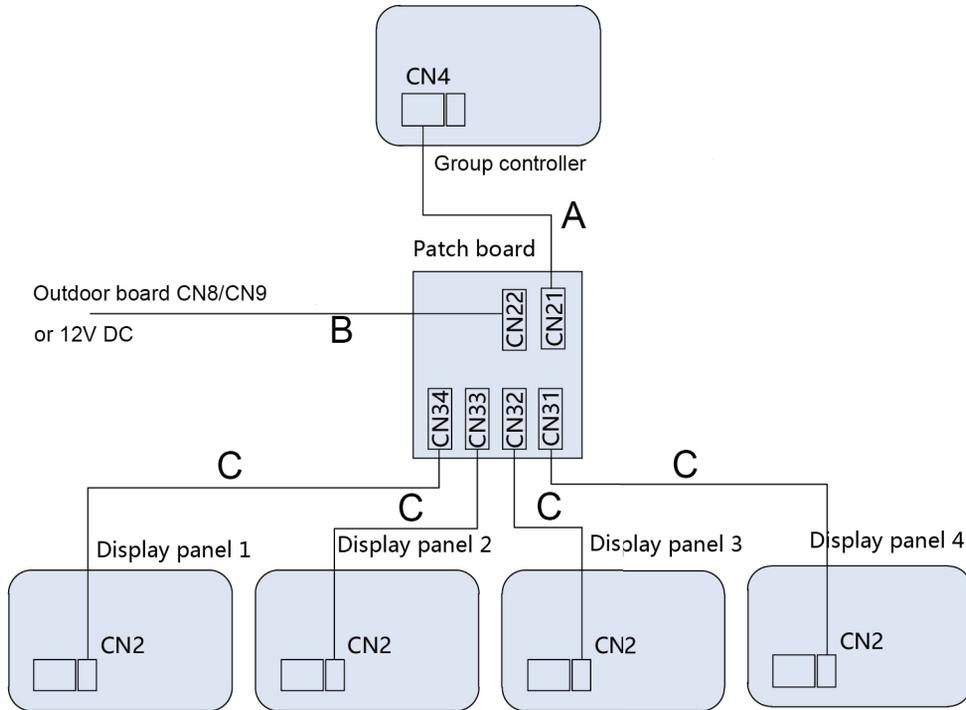


Figure 2-3 Communication Connection

### 2.4 Address Setting

Set the remote monitoring address of the submodule control panel to 1~4 at the commissioning parameter setting page of the submodule control panel.

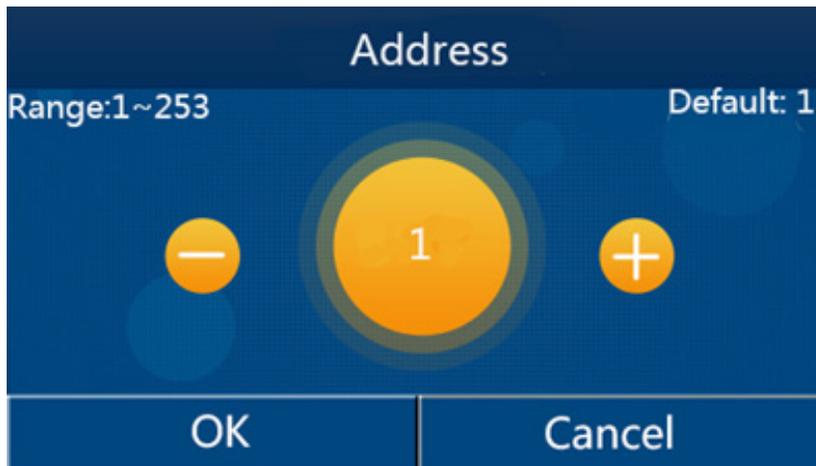


Figure 2-4 Address Setting Page at the Submodule Control Panel

### 3. Operation Instructions

#### 3.1 Homepage

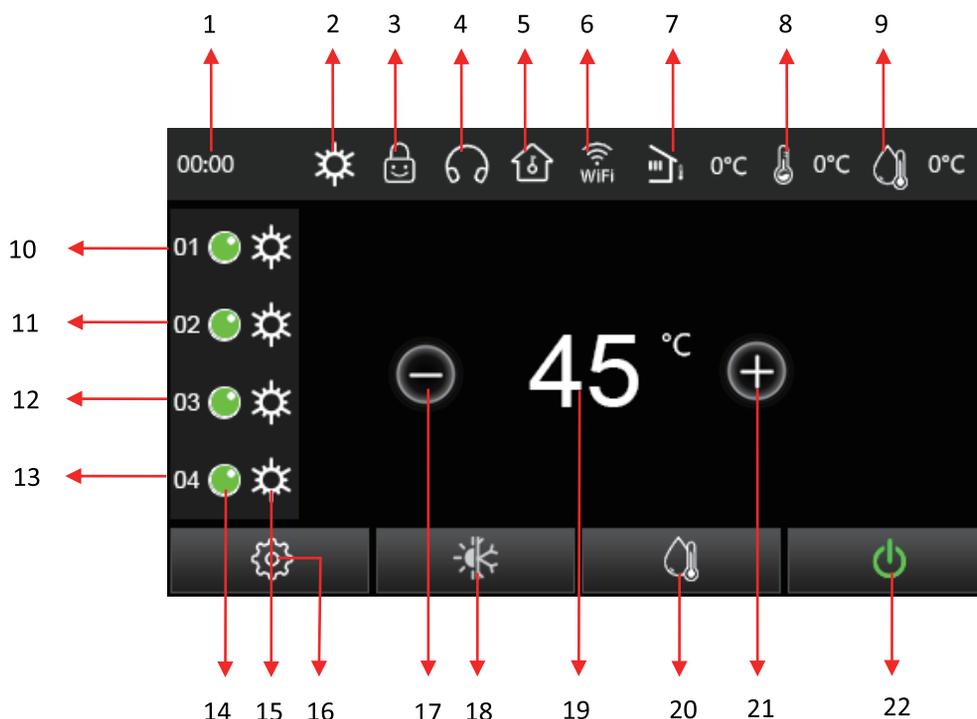


Figure 3-1 Homepage

No.	Name	Description
1	System clock	Enter the system clock setting page.
2	Mode	Display the set mode.
3	Child lock	Displayed when this function works.
4	Quiet mode	Displayed when this mode works.
5	Holiday mode	Displayed when this mode works.
6	WiFi	Reserved
7	Outdoor temperature	Average outdoor ambient temperature of all units.
8	Leaving water temperature	Under the "Heat" mode, it is the average leaving temperature of the auxiliary electric heater for the heat pump equipped with the auxiliary electric heater. It is the average leaving temperature for the heat pump without the auxiliary electric heater or under the "Cool" mode.
9	Water tank temperature	Displayed when the water tank is available.
10	Heat pump 01	Status of the heat pump 01~04, you will enter the corresponding parameter viewing page by clicking this heat pump's serial number, which is not displayed when the this heat pump is offline.
11	Heat pump 02	
12	Heat pump 03	
13	Heat pump 04	
14	Status of the compressor	When the indicator lights off, it indicates that the unit is in the shutdown or standby state; when the indicator lights on in green, it indicates that the unit is in the operating status.
15	Operating mode	The current operation mode is displayed.
16	Parameter setting	By this key the menu page can be switched to.
17	Temperature setting (-)	It is to decrease the target temperature.
18	Switchover between the "Cool" and "Heat modes	By this key the heating and cooling modes can be switched over.
19	Target temperature setting	It is the water temperature for heating under the "Heat", "Heat +Hot water" modes; it is the water temperature for cooling under the "Cool" and "Cool + Hot water", and it is the water tank temperature under the "Hot water" mode.

No.	Name	Description
20	"Hot water" mode setting	It is displayed when the water tank is available and is used to set or cancel the "Hot water" mode.
21	Temperature setting (+)	It is to increase the target temperature.
22	ON/OFF	There are conditions that the group controller is prevented from being turned on. In these cases, by clicking this key at the menu page you can see the specific reason.

Icon	Description	Icon	Description
	Homepage		"Heat" mode
	"Cool/Heat" mode		"Cool" mode
	"Hot water" mode		"Heat + Hot water", "Heat" first
	OFF		"Hot water + Heat", "Hot water" first
	ON		"Cool + Hot water", "Cool" first
	Add		"Hot water + Cool", "Hot water" first
	Minus		Child lock
	OK		Quiet mode
	Cancel		Holiday mode
	Back		Timer
	Save		WiFi (reserved)
	Error		Manual defrosting
	Outdoor temperature		EVU (reserved)
	Leaving water temperature		Disinfection
	Water tank temperature		Enter the menu page

### 3.2 Menu Page

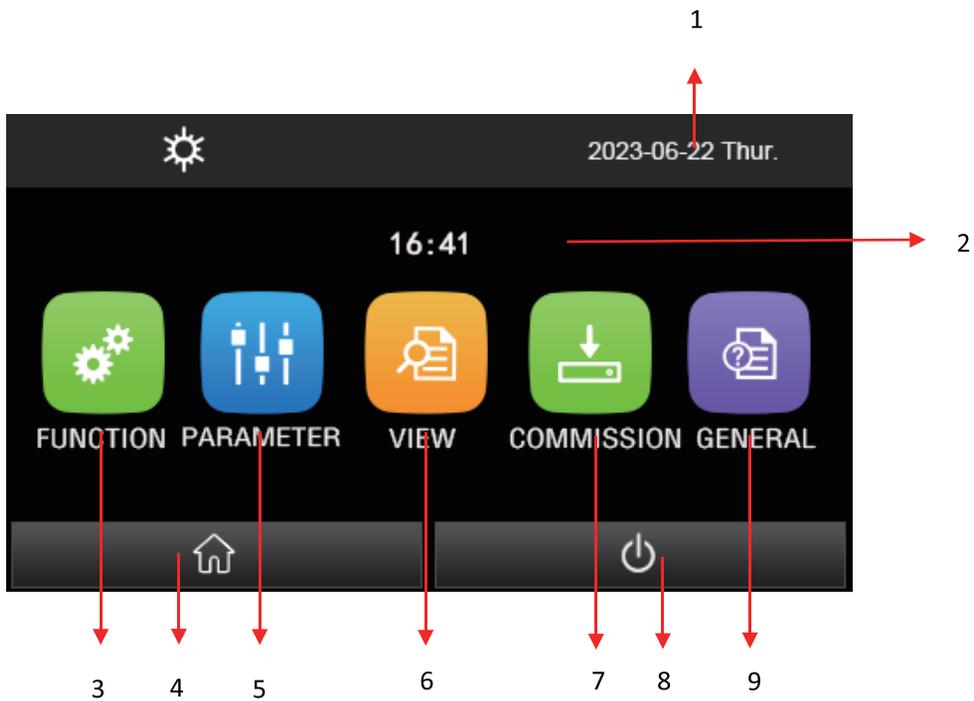


Figure 3-2 Menu Page

No.	Icon	Description
1		Display the year/month/date/weekday setting
2		Display the clock setting
3		Go to the function setting page.
4		Go to the homepage.
5		Go to the parameter setting page.
6		Go to the parameter viewing page.
7		Go to the commissioning parameter setting page.
8		Turn on or off the group controller. It lights on in green upon being turned on and lights off upon being turned off.
9		Go to the general parameter setting page.

### 3.3 ON/OFF Page



Figure 3-3 ON Page

The On/Off key is at the lower right corner of the home page or menu page.

When the icon is white, it indicates that the group controller is turned off. By pressing this key, the icon will turn green and it indicates that the group controller is turned on. The group controller cannot be turned on under some conditions, such as when thermostat, holiday mode, or child lock has been activated. When the group controller is turned on, the sub-module control panel under group control will be turned on successively.

When the icon is green, it means that the group controller is turned on. By pressing this key, the icon will turn white and it means that the group controller is turned off. At this time, each sub-module control panel under group control will be turned off immediately.

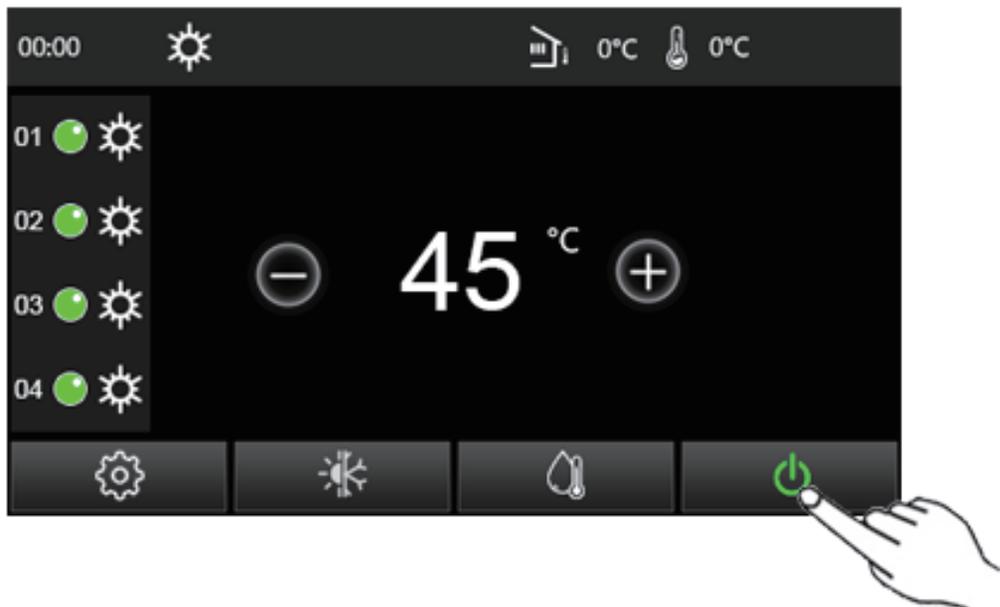


Figure 3-4 OFF Page

### 3.4 "FUNCTION" Setting

At the menu page, click "FUNCTION" to go to the function setting page as shown in the figure below.

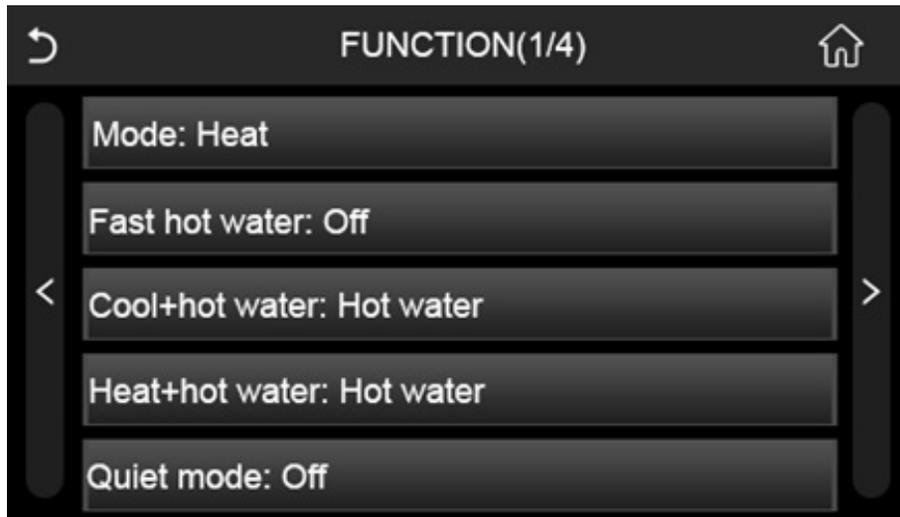


Figure 3-5 "FUNCTION" Setting Page

No.	Name	Options	Default	Description
1	Mode	Cool	Heat	When the water tank is unavailable, only "Heat" and "Cool" modes are available for the heat pump.
		Heat		
		Hot water		
		Cool+Hot water		
		Heat+Hot water		
2	Fast hot water	On/Off	Off	When the water tank is unavailable, this function is reserved.
3	Cool+Hot water	Cool/Hot water	Hot water	When the water tank is unavailable, this function is reserved.
4	Heat+Hot water	Heat+hot water	Hot water	When the water tank is unavailable, this function is reserved.
5	Quiet mode	One time/Off/Timer/Always ON	Off	/
6	Weather depend	On/Off	Off	/
7	Holiday mode	On/Off	Off	It should be set only when the group controller is turned off.
8	Child lock	On/Off	Off	
9	Disinfection	On/Off	Off	When the water tank is unavailable, this function is reserved.
10	Error reset	/	/	Some errors can be cleared only by manual resetting. It should be set only when the group controller is turned off.
11	Temp. timer	On/Off	Off	It is timed to change temperature. It works always when the group controller is turned on.
12	Clock timer	On/Off	Off	It is timed to change temperature, mode as well as turn on/off the heat pump. It works one time. It goes ineffective upon manual restart.
13	Preset mode	On/Off	Off	It is timed to change temperature, mode, as well as turn on/off the heat pump. It works always.
14	Weekly timer	On/Off	Off	It is timed to turn on or off the group controller. It works always when the group controller is turned on.
15	Holiday release	On/Off	Off	It is used with the "Weekly timer" together.

No.	Name	Options	Default	Description
16	WiFi reset	/	/	This reserved function is used to reset the WiFi.
17	Reset	/	/	It is used to reset all user parameter settings.
18	Unit select	/	/	It is used to select the serial number of the sub-module control panel which is required for group control.

### 3.4.1 "Mode" Setting

At the turn-off status of the group controller, go to the function setting page, click "Mode" to go to the mode setting page, select the expected mode, and then click ✓ for confirming this setting and let the group controller go back to the function setting page.

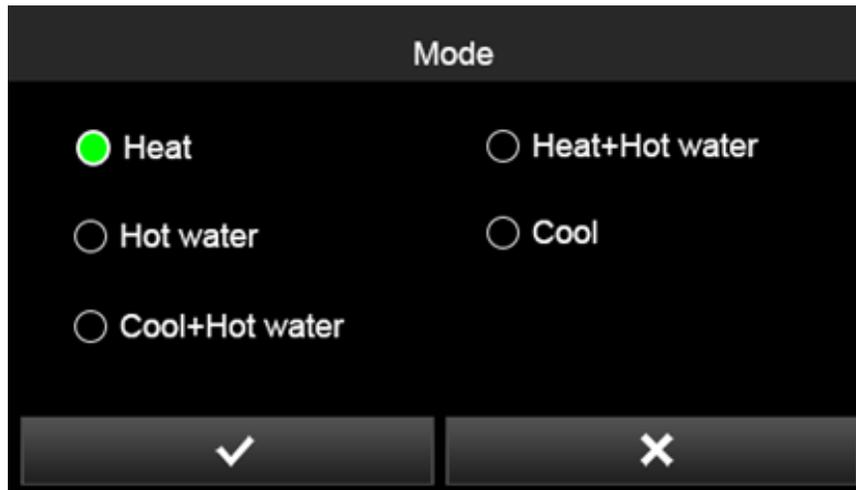


Figure 3-6 "Mode" Setting Page

**Notes:**

- (a) Under normal conditions, the operating mode can be switched only when the group controller is turned off. During operation, the mode is not allowed to be changed.
- (b) If the water tank is unavailable, only the "Heat" and "Cool" modes are allowed.
- (c) If at least one heat pump is equipped with a water tank, the "Heat", "Cool", "Heat + Hot water", "Cool + Hot water", and "Hot water" modes all can be set. In this case, under the "Heat + Hot water" and "Cool + Hot water" modes, the heat pump with the water tank works normally and the heat pump without the water tank perform "Heat"/"Cool" mode.

### 3.4.2 "Fast hot water" Setting

This function is to make the water tank temperature quickly reach the target value through the water tank electric heater.

Note: this function is effective only when the water tank is available, otherwise this function will be reserved.

### 3.4.3 "Cool/Heat + hot water" Setting

When the priority is given to "How water", heat pump will firstly operate to let the water temperature reach the target value and then perform "Heat" or "Cool". When the priority is given to "Cool"/ "Heat", the heat pump will perform "Heat" or "Cool", and the electric heater of the water tank works for heating water.

Note: If no water tank is configured, they are reserved. When the water tank is configured, the heat pump is defaulted to perform the "Hot water" mode.

### 3.3.4 "Quiet mode" Setting

When the unit operates in the "Quiet" mode, noise is reduced by limiting the compressor frequency and the fan speed.

"One time": when it is set to "One time", this mode works only one time and will be deactivated automatically when the group controller is turned off..

“Timer”: when it is set to “Timer”, you can set the start time and end time for this mode. When the system time reaches the start time, this mode will be automatically activated and deactivated upon the end time.

“Always on”: when it is set to “Always on”, this mode will not be deactivated when the group controller is turned off and remains activated upon next restart. It will be deactivated only by the manual setting.

Note: the “Quiet” mode will limit the operation of the unit load, resulting in slow heating/cooling/water heating and low output capacity. As “Always on” option is unavailable for some previous heat pumps, this setting at the group controller would fail to work for these units and therefore “One time” and “Timer” options are preferred.

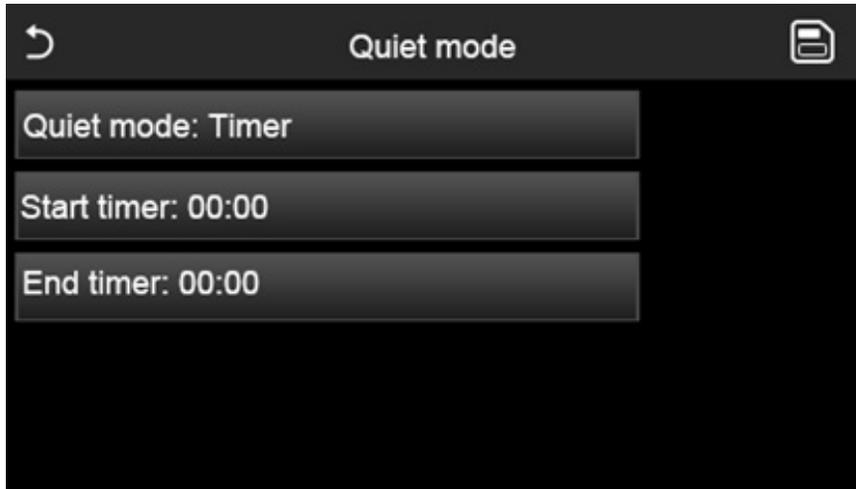


Figure 3-7 “Quiet mode” Setting Page

### 3.4.5 “Weather depend” Mode Setting

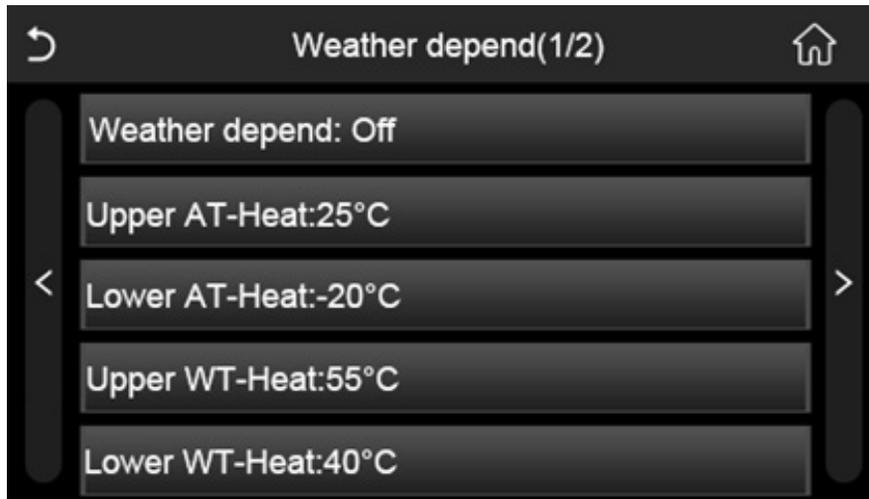


Figure 3-8 "Weather depend" Setting Page

Full name	Displayed name
Upper limit of the ambient temperature for the “Heat’ mode	Upper AT-Heat
Lower limit of the ambient temperature for the “Heat’ mode	Lower AT-Heat
Upper limit of the water temperature for the “Hot water’ mode	Upper WT-Heat
Lower limit of the water temperature for the “Hot water’ mode	Lower WT-Heat
Upper limit of the room temperature for the “Heat’ mode	Upper RT-Heat
Lower limit of the room temperature for the “Heat’ mode	Lower RT-Heat
Upper limit of the ambient temperature for the “Cool’ mode	Upper AT-Cool
Lower limit of the ambient temperature for the “Cool’ mode	Lower AT-Cool
Upper limit of the water temperature for the “Cool” mode	Upper WT-Cool
Lower limit of the water temperature for the “Cool” mode	Lower WT-Cool
Upper limit of the room temperature for the “Cool” mode	Upper RT-Cool
Lower limit of the room temperature for the “Cool” mode	Lower RT-Cool

After the “Weather depend” mode has been activated, the heat pump are controlled based on target temperature listed above, which can be viewed at the “VIEW” pages.

Note: this mode is only valid for the “Cool” and “Heat” operation.

### 3.4.6 "Holiday mode" Setting

When the “Holiday mode” has been activated, the heat pump runs in an energy-saving way (30 ° C water temperature for the “Heat” mode) to maintain a certain temperature in the room and avoid freezing of the pipeline system.

#### Notes:

- (a) This function can only be activated when the group controller has been turned off.
- (b) When the “Holiday mode” has been activated, the operation mode will be automatically switched to the “Heat” mode, with “Weekly timer”, “Preset mode”, “Clock timer”, “Temp timer” automatically being deactivated, and with “Mode”, “On/Off”, “Leaving water temperature”, “Room temperature”, “Disinfection” and “Timer” settings being disabled.

### 3.4.7 "Child lock" Setting

The child lock function is used to prevent misoperation of keys.

When the “Child lock” has been activated, the group controller will immediately returns to the home page and displays the child lock icon as shown below and the key operation of the group controller is disabled. Long press the  key for about 6 seconds will temporary deactivate this function, and the child lock icon will disappear. At this time, the child lock function is still activated, and the group controller will return to the home page and be locked again if the touch screen is not operated within 30 seconds. The group controller will be truly unlocked only when the child lock function is set to “Off”.

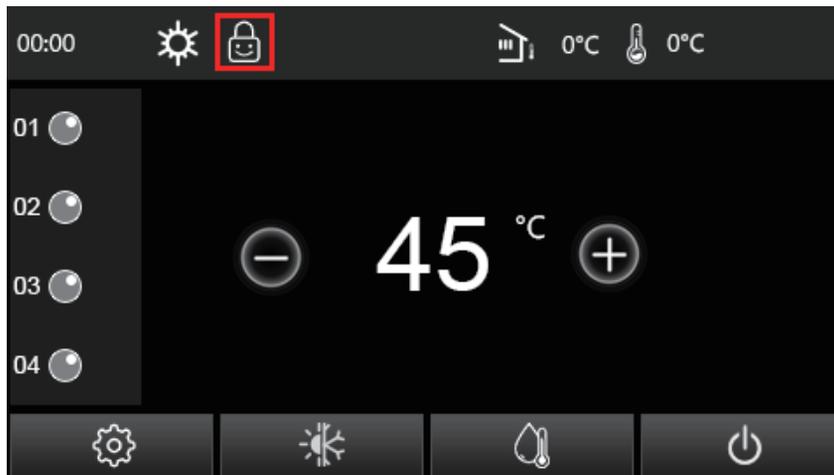


Figure 3-9 Child Lock Page

### 3.4.8 "Disinfection" Setting

The disinfection mode is to heat the water in the tank and kill bacteria through high temperature.

Once the “Disinfection” mode has been activated, you are able to set the “Day”, “Clock” and “Temperature” for disinfection. The disinfection icon will be displayed only for the unit under the “Disinfection” operation.



Figure 3-10 "Disinfection" Page

**Notes**

- (a) This function is only for the heat pump with the water tank.
- (b) Once the "Holiday mode" has been activated, this mode is not allowed to be activated.
- (c) The disinfection mode can be activated no matter if the group controller is turned on or off. Its operation priority is higher than that of the "Hot water" mode.
- (d) When the "Disinfection" mode has been activated, the units would fail to enter the disinfection operation under some conditions, such as occurrence of the electric heater error of the water tank, and communication error between the submodule control panel and the indoor unit.

**3.4.9 Error Reset Setting**

If there is an error that cannot be recovered automatically, you need to manually reset it and restart the group controller, which should be done when the group controller has been turned off.



Figure 3-11 Error Reset Page

**3.4.10 Timer Setting**

There are four types of timers, whose priorities from high to low are "Temp. timer" > "Clock timer" > "Preset mode" > "Weekly timer". When the timer of a higher priority is enabled, other timers will be invalid. When any timer is enabled, the timer icon will be displayed at the home page and menu page.

(1) "Temp. timer" Setting

"Temp. timer": it works when it is set to "On".

"Period 1/2": there are two time points for this mode.

"WT-Heat 1/2": there are the target water temperatures corresponding to "Period 1/2".

Once this mode has been activated and the group controller has been turned on, upon the period 1/2 of the system time, the heat pump will operate according to “WT-Heat 1/2”. “Temp. timer” is unavailable for the “Hot water” mode.

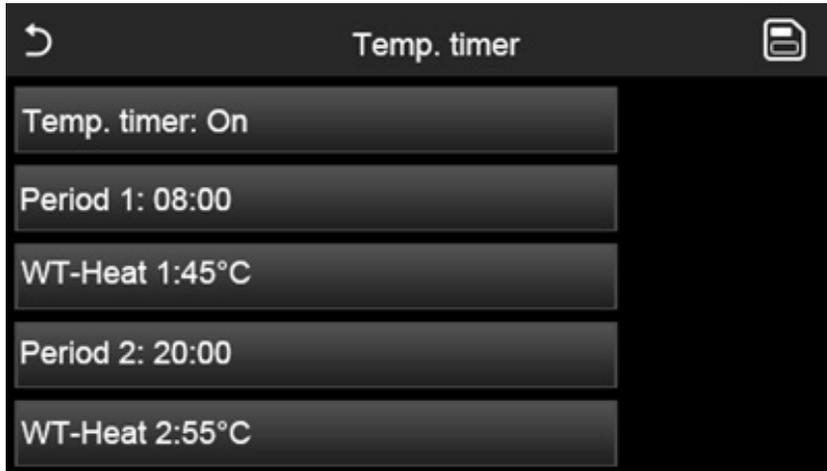


Figure 3-12 "Temp. timer" Page

For example, when “Temp. timer” has been set as shown above for the group controller under the “Heat” mode, target leaving water temperature will be changed to 45°C at 8:00 every day, and changed to 55°C at 20:00 every day.

(2) "Clock timer" Setting

“Clock timer”: it works when it is set to “On”.

“Mode”: target mode;

“Period”: startup period;

“T-water tank”: it is the target temperature of the water tank and can be set when the target mode is set “Hot water”;

“WOT-Heat/WOT-Cool”: it is the target leaving water temperature for the “Heat” and “Cool” modes. For the “Heat + Hot water” and “Cool + Hot water” modes, both the leaving water temperature and the water tank temperature can be set.

If the end time is earlier than the start time, this setting will not be performed. The “Clock timer” will be deactivated when it has been performed once or the group controller has been restarted manually. When the “Clock timer” has been set to “On”, upon the start time, the group controller will run with settings of the “Mode” and “WOT-Heat”/ “WOT-Cool”/“T-water tank”; upon the end time, the group controller will be turned off. However, settings of the “Mode” and “WOT-Heat”/ “T-water tank” remain.

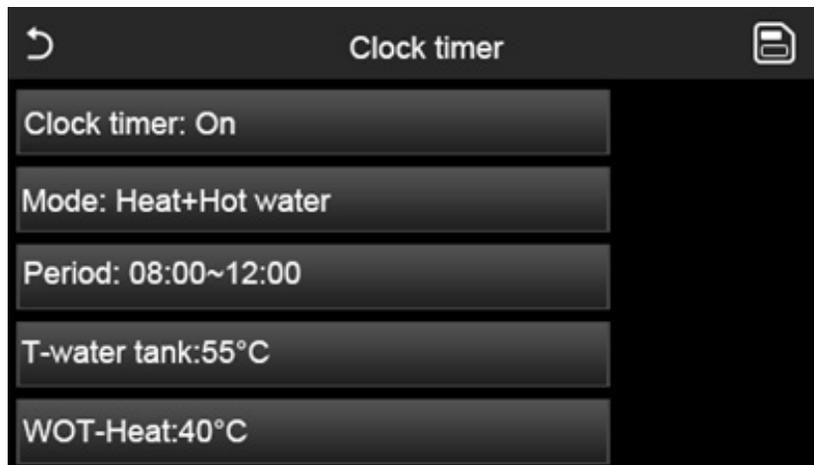


Figure 3-13 "Clock timer" Page

For example, if the initial state of the group controller is Off, "WOT-Heat" is set to 45°C, and "T-water tank" is set to 50°C, the group controller will control the heat pump with these settings at 8:00 every day, and will be turned off at 12:00 with the "Clock timer" automatically being deactivated.

(3) "Preset mode" Setting

"Period 1/2/3/4": Four periods can be set to do the On/Off operation.

"Mode": Target mode;

"WOT-Heat/WOT-Cool": When "Mode" is set to "Heat" or "Cool", it is the leaving water temperature for heating or cooling; when "Mode" is set to "Hot water", it is the water tank temperature; when "Mode" is set to "Heat + Hot water" or "Cool + Hot water", this setting is invalid and the original water tank temperature works.

Start timer: start time.

End timer: stop time.

The end time shall be earlier than the start time. When "Preset mode" has been activated, upon the start time, the group controller will run with settings of the "Mode" and "WOT-Heat"/ "WOT-Cool"; upon the end time, the group controller will be turned off. However, "Preset mode" remains being activated and works the second day.

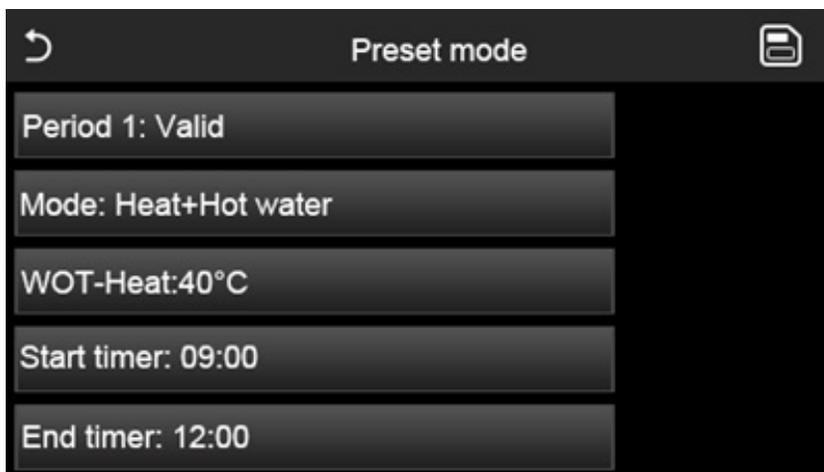


Figure 3-14 "Preset mode" Page

For example, if the initial state of the group controller is Off, "WOT-Heat" is set to 45°C, and "T-water tank" is set to 50°C, the group controller will control the heat pump with these settings at 9:00 every day under the "Heat + Hot water" mode, and will be turned off at 12:00. If more than one period has been set, they will be performed in the order of time sequence.

(4) "Weekly timer" Setting

"Weekly timer": it works when it has been set to "On".

"+" / "-": it is to select the current week day.

Valid/Invalid/Holiday: when it is set to "Valid", this setting works. When it is set to "Holiday", it should work with the setting of "Holiday release". That is, when "Holiday release" is set to "On"/"Off", "Weekly timer" is invalid/valid for this week day.

"Start timer": start time

"End timer": end time

"Sel.": it is used to enable or disable the start timer and the end timer. "--" indicates that the corresponding timer is unselected and invalid; "√" indicates the corresponding timer is selected and valid.

When "Weekly timer" has been set to "On", and weekday, start timer and end timer all go valid, upon the start time, the group controller will control the heat pump with the current mode and temperature settings; upon the end time, the group controller will be turned off. If the start timer is the same as the end timer, the group controller will do the control with the end timer.

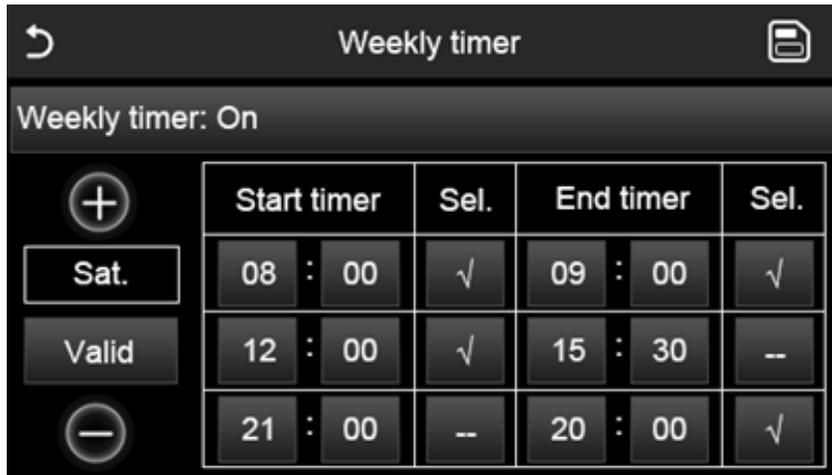


Figure 3-15 "Weekly timer" Page

For example, if the initial state of the group controller is Off, the mode is set to "Heat", "WOT-Heat" is set to 45°C, and "Weekly timer" is set as the figure above, the group controller will control the heat pump with these settings at 8:00 every day under the "Heat" mode, and will be turned off at 9:00. And then, the group controller will be restarted at 12:00 and stopped at 20:00

See the table below for the differences of four timers.

Priority from high to low	Leaving water temperature	Water tank temperature	Mode	On/Off	Repeatability
Temp. timer	√	x	x	x	√
Clock timer	√	√	√	√	x
Preset mode	√	x	√	√	√
Weekly timer	x	x	x	√	√

### 3.4.11 "Holiday release" Setting

Difference with the "Holiday" mode, "Holiday release" is set for the "Weekly timer". When the user goes out and do not turn on the heat pump for some weekdays, you can use this function to quickly change the settings of the "Weekly timer".

### 3.4.12 "WiFi" Setting

It is used to reset the WiFi function, which is reserved.

### 3.4.13 "Reset" Setting

It shall be set only when the group controller has been turned off.

It is used to reset the settings of "Temp. timer", "Clock timer", "Preset mode", "Weekly timer" and "Weather-depend".

### 3.4.13 "Units select" Setting

The units involved in group control can be manually selected. The unit offline is in gray. "√" indicates the selected unit is under the group control. "-" indicates the selected unit is not involved in the group control but you can view its parameters through the "VIEW" page.

At least one unit shall be selected.



Figure 3-16 "Units select" Page

### 3.5 "PARAMETER" Setting

At the menu page, click "PARAMETER" and the group controller will enter the parameter setting page, as shown in the following figure.

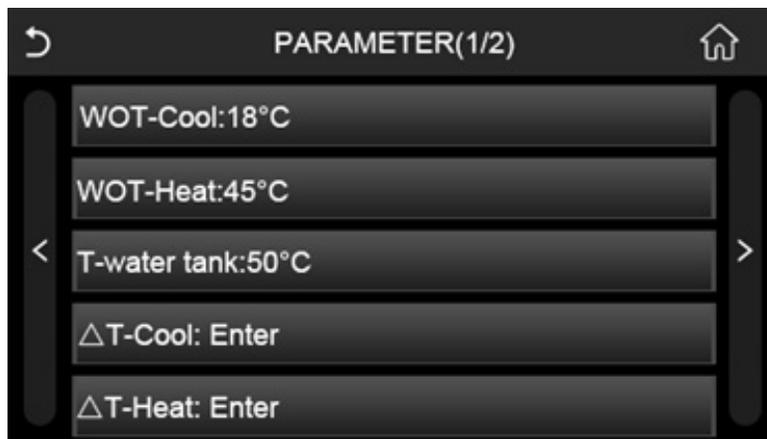


Figure 3-17 "PARAMETER" Setting Page

No.	Full name	Displayed name	Range	Range	Default	Remarks
			(°C)	(°F)		
1	Leaving water temperature for cooling	WOT-Cool	7~25	45~77	18/64	G1, G2
			5~25	41~77	18/64	G3,G4
2	Leaving water temperature for heating	WOT-Heat	20~60	68~140	45/113	G1,G2
			20~65	68~149	45/113	G3,G4
3	Water tank temperature	T water tank	40~80	104~176	50/122	
4	Leaving water temperature difference for cooling	ΔT-Cool	2~10	36~50	5/41	It can be set separately.

No.	Full name	Displayed name	Range	Range	Default	Remarks
			(°C)	(°F)		
5	Leaving water temperature difference for heating	ΔT-Heat	2~10	36~50	10/50	It can be set separately.
6	Leaving water temperature difference for water heating	ΔT-hot water	2~25	36~77	5/41	It is for G3 and G4 heat pumps
7	temperature difference for water heating	ΔT-hot water	2~8	36~46	5/41	It is for G1 and G2 heat pumps

The temperature deviation of leaving cooling/heating water is used to judge startup conditions. The starting sequence of heat pumps can be controlled by differentiating their temperature deviation. In the case of the same total runtime, the one with small temperature deviation setting will be preferentially started.

### 3.6 "COMMISSION" Setting

At the menu page, click "COMMISSION" and the group controller will go to the commissioning setting page, as shown in the following figure.

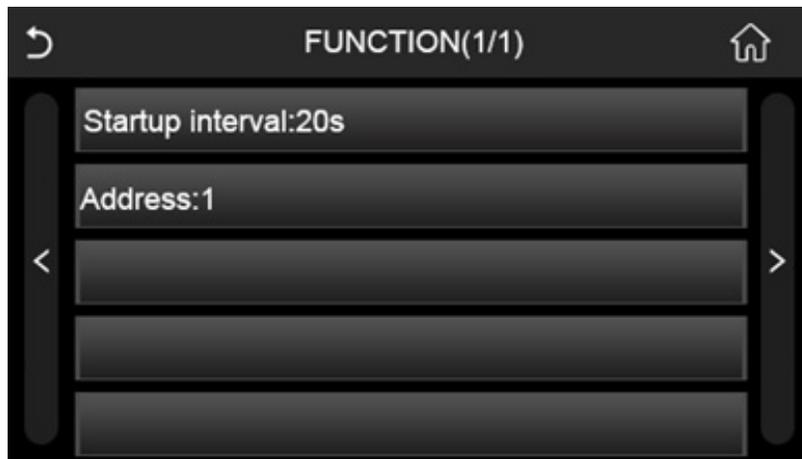


Figure 3-18 "COMMISSION" Setting Page

#### 3.6.1 Startup interval

It is used to control the startup interval of the heat pumps. If it is set to 20 seconds, click the "On/Off" key at the group controller, the heat pump with the shortest runtime will start first. 20 seconds later, the second is turned on, and so on.

#### 3.6.2 Address

It is used to set the address of the group controller involved in the remote monitoring. This function is reserved.

### 3.7 "VIEW" Setting

At the menu page, click "VIEW" to enter the page as shown in the following figure, where you can view the information of each unit.

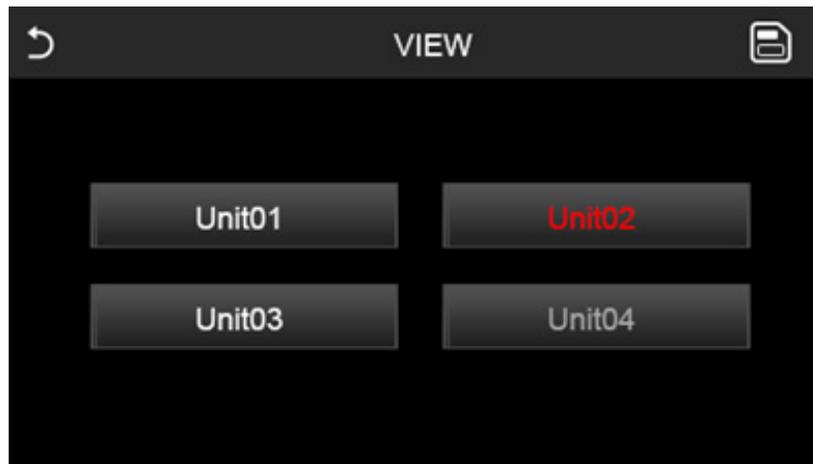


Figure 3-19 "VIEW" Page

Offline units are displayed in gray and their information cannot be viewed in details. The unit in error is displayed in red. As shown in Figure 3-19, the unit 2 is in error and unit 4 is offline.

Click the online unit and then you can view its detailed operating data.



Figure 3-20 "VIEW" Page

### 3.7.1 "Status view" Page

Click "Status" to enter the "Status view" page to view the unit's operating status.

When no status and parameter is available, nothing or NA will be displayed.

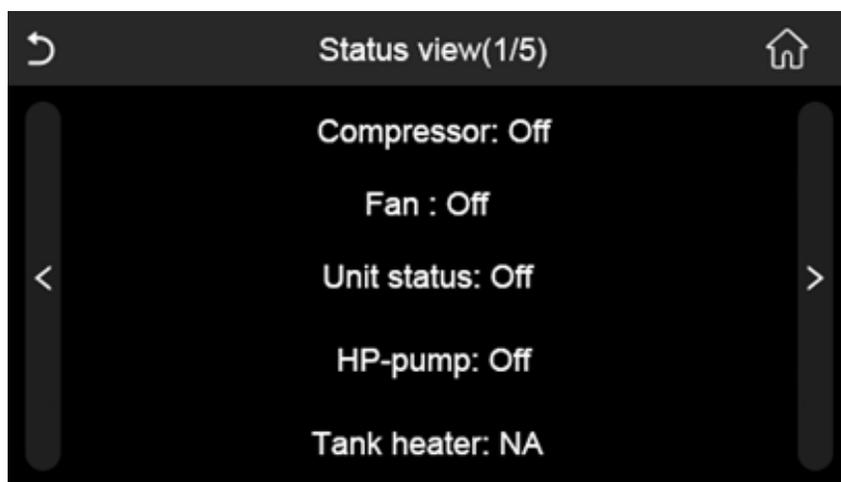


Figure 3-21 "Status-view" Page

No.	Full name	Displayed name	Options
1	Status of the compressor	Compressor	On/Off
2	Status of the compressor	Fan	On/Off
3	Status of the heat pump	Unit status	Cool/Heat/Hot water/Off
4	Status of the water pump of the heat pump	HP-pump	On/Off
5	Status of the water tank electric heater	Tank heater	On/Off
6	Status of the electric 3-way valve 1	3-way valve 1	NA
7	Status of the electric 3-way valve 2	3-way valve 2	On/Off
8	Status of the electric heater for the compressor	Crankc. heater	On/Off
9	Status of the electric heater 1 for the heat pump	HP-heater 1	On/Off
10	Status of the electric heater 2 for the heat pump	HP-heater 2	On/Off
11	Status of the electric heater of the heat pump chassis	Chassis heater	On/Off
12	Status of the electric heater for the plate-type heat exchanger	Plate heater	On/Off
13	Status of defrosting	Defrost	On/Off
14	Status of oil return	Oil return	On/Off
15	Status of the thermostat	Thermostat	Off/Cool/Heat/Hot water/ Cool+Hot water/Heat+Hot water
16	Status of other thermal	Other thermal	On/Off
17	Status of the electric 2-way valve	2-way valve	On/Off
18	Status of freeze protection in winter	HP-Antifree	On/Off
19	Status of the gate control	Gate-Ctrl.	Card in/Card out
20	Status of the 4-way valve	4-way valve	On/Off
21	Status of disinfection operation	Disinfection	Off/Runing/Done/Fail
22	Stats of the water flow switch	Flow switch	On/Off
23	Status of the water pump for the water tank	Tank Pump	On/Off
24	Status of the SG signal	SG signal	On/Off
25	Status of the EVU signal	EVU signal	On/Off

### 3.7.2 "Param. view" Page

Click "Parameter" to enter the "Param. view" page, where you can view the unit's operating parameters.

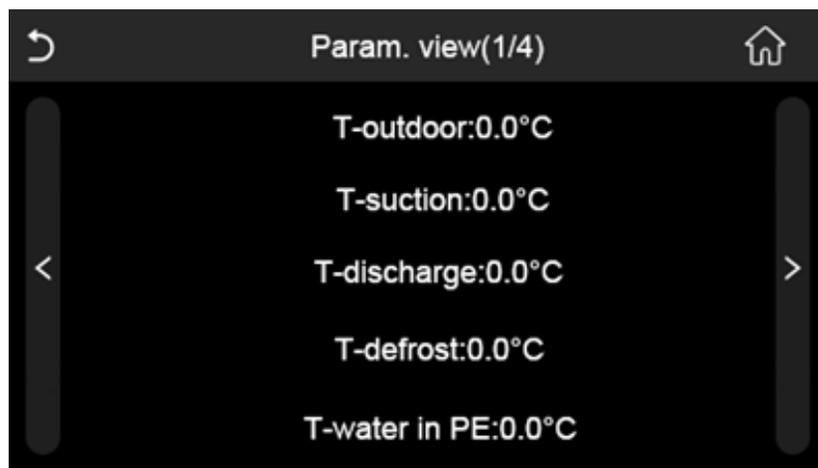


Figure 3-22 "Param. view" Page

No.	Full name	Displayed name
1	Ambient temperature	T-outdoor
2	Suction temperature	T-suction
3	Discharge temperature	T-discharge
4	Defrosting temperature	T-defrost

No.	Full name	Displayed name
5	Entering water temperature of the plate-type exchanger	T-water in PE
6	Leaving water temperature of the plate-type exchanger	T-water out PE
7	Leaving water temperature of the auxiliary electric heater of the heat pump	T-optional water Sen.
8	Water tank temperature	T-tank ctrl.
9	Target temperature for the floor commissioning	T-floor debug
10	Runtime for floor commissioning	Debug time
11	Liquid line temperature	T-liquid pipe
12	Gas line temperature	T-gas pipe
13	Economizer inlet temperature	T-economizer in
14	Economizer outlet temperature	T-economizer out
15	Discharge pressure	Dis. pressure
16	"Weather depend" target temperature	T-weather depend
17	Total runtime of the compressor	Run time

### 3.7.3 "Error view" Page

Click "Error" at the "VIEW" page to enter the "Error view" page, where you can view the errors of each unit, which updates in real time.

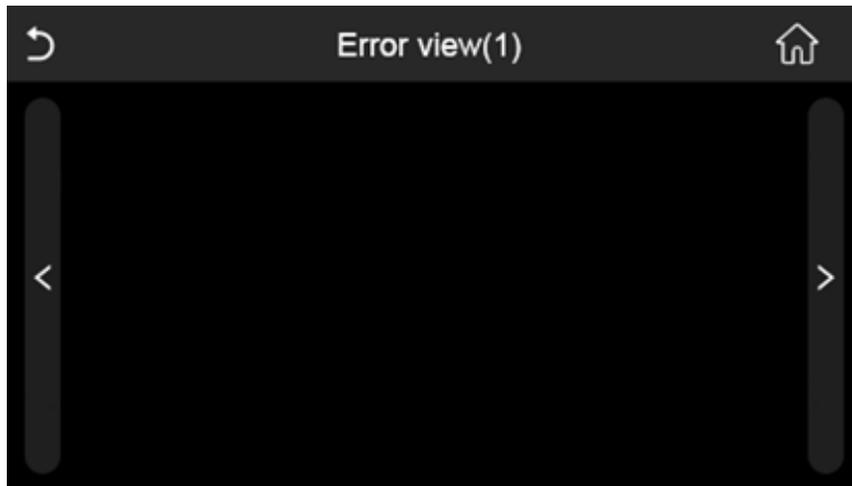


Figure 3- 23 "Error view" Page

No.	Full Name	Displayed Name
1	Ambient temperature sensor error	Ambient sensor
2	Defrosting temperature sensor error	Defrost sensor
3	Discharge temperature sensor error	Discharge sensor
4	Suction temperature sensor error	Suction sensor
5	Economizer inlet temperature sensor	Econ. in sens.
6	Economizer outlet temperature sensor	Econ. out sens.
7	Fan error	Outdoor fan
8	High pressure protection	High pressure
9	Low pressure protection	Low pressure
10	High discharge protection	Hi-discharge
11	Capacity DIP switch error	Capacity DIP
12	Communication error between the outdoor and indoor main boards	ODU-IDU Com.
13	Communication error between the outdoor main board and the drive board	Drive-main com.

No.	Full Name	Displayed Name
14	Communication error between the display panel and indoor main board	IDU Com.
15	High pressure sensor error	HI-pre. sens.
16	Leaving water temperature sensor error for the plate type heat exchanger of the heat pump	Temp-HELW
17	Leaving water temperature sensor error for the auxiliary electric heat of the heat pump	Temp-AHLW
18	Entering water temperature sensor error of the plate type heat exchanger of the heat pump	Temp-HEEW
19	Water tank temperature sensor error ("NA" for mini chillers)	Tank sens.
20	Remote room temperature sensor error	T-Remote Air
21	Protection for the flow switch of the heat pump	HP-Water Switch
22	Welding protection to the auxiliary electric heater 1 of the heat pump	Auxi. heater 1
23	Welding protection to the auxiliary electric heater 2 of the heat pump	Auxi. heater 2
24	Welding protection to the water tank electric heater	Auxi. -WTH
25	DC bus under-voltage or voltage drop error	DC under-vol.
26	DC bus over-voltage	DC over-vol.
27	AC current protection (input side)	AC curr. pro.
28	IPM defective	IPM defective
29	PFC defective	PFC defective
30	Start failure	Start failure
31	Phase loss	Phase loss
32	Jumper cap error	Jumper cap error
33	Driver resetting	Driver reset
34	Compressor overcurrent	Com. over-cur.
35	Current sensing circuit error or current sensor error	Current sen.
36	Desynchronization	Desynchronize
37	Radiator or IPM or PFC over-temperature	Overtemp.-mod.
38	Radiator or IPM or PFC temperature sensor error	T-mod. sensor
39	Charging circuit error	Charge circuit
40	AC input voltage error	AC voltage
41	Sensor connection protection ( the current sensor fails to be connected with the corresponding phase U and or phase V)	Sensor con.
42	Communication error between the display panel and the outdoor unit	ODU Com.
43	Refrigerant vapor line temperature sensor error	Temp RGL
44	Refrigerant liquid line temperature sensor error	Temp RLL
45	4-way valve error	4-way valve

### 3.7.4 "Error log" Page

Click "Error log" at the "VIEW" page to enter the "Error view" page, where you can view error logs.

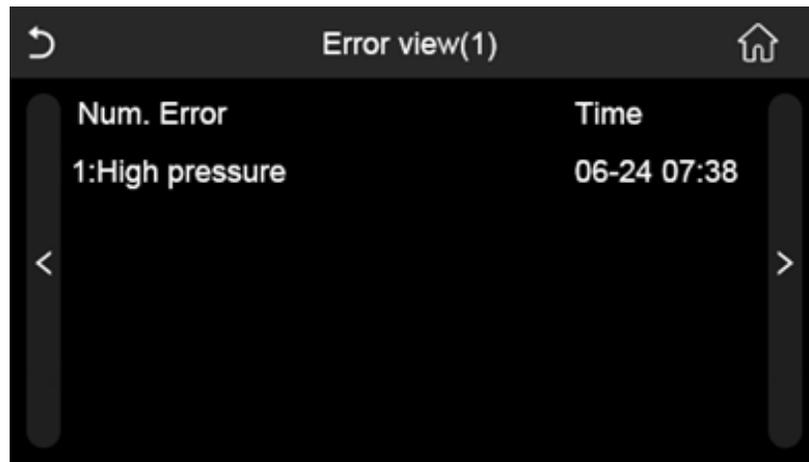


Figure 3.-24 “Error view” Page

**Notes**

- (a) Error logs record 20 errors, each including the name and occurrence time.
- (b) When the number of error logs reaches 20; the latest fault will replace the earliest.

**3.8 “GENERAL” Setting**

At the menu page, click "GENERAL" to enter the “GENERAL” setting page, where you can set the temperature unit, language, on/off memory, time and date, beeper, back light etc., as shown in the following figure.

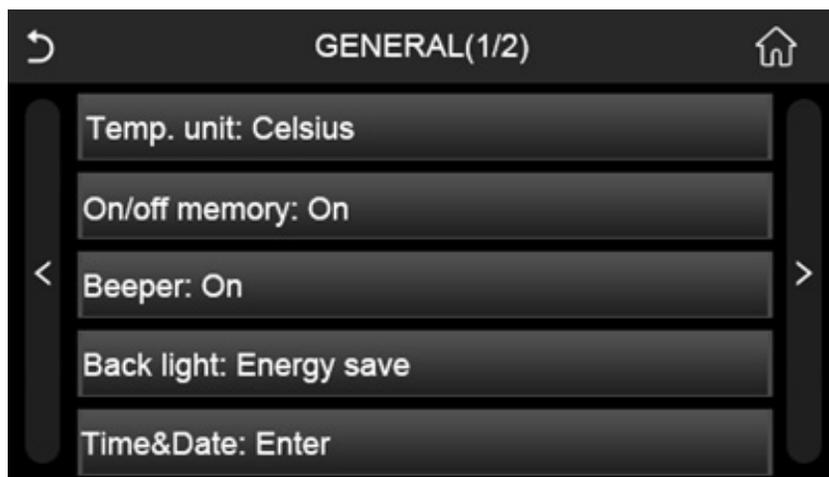


Figure 3-25 “GENERAL” Page

No.	Item	Options	Default	Remarks
1	Temp. unit	°C/°F	°C	It is used to switch over temperature units.
2	On/Off memory	On/Off	On	It is used to decide if the group controller will memorize the operation status upon power loss.
3	Beeper	Enter	On	It is used to decide if the key operation is sounded or not.
4	Back light	Lighted/Energy saving	Energy save	Lighted: the group controller is lighted on always. Energy saving: When there is no touching operation in 5 minutes, the group controller will be lighted off automatically, but will light on again once there is any touching operation.
5	Time&Data	Enter	/	It is used to set the system clock which will be taken as the basis for timer settings.
6	Language	English	English	Only English is available for the current version.
7	WiFi	On/Off	/	It is reserved.

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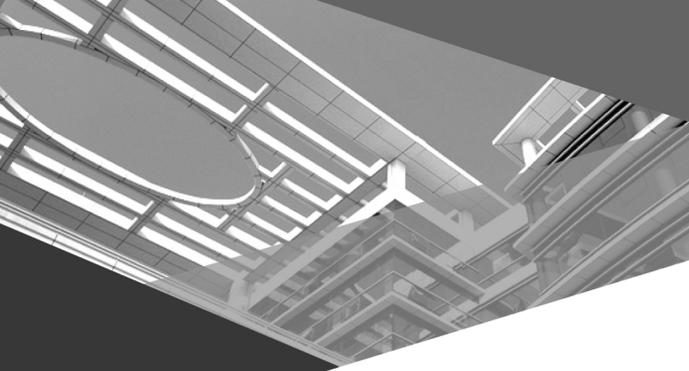
No.	Item	Options	Default	Remarks
8	Version	/	/	It is used to check the current program and protocol versions.

### 3.9 Others

Functions stated below are unavailable for heat pumps under the group control.

- (1) Room temperature control. only leaving water temperature control is available;
- (2) WiFi control. It is available only through the group controller.

The thermostat works for group control. When the thermostat has been activated through the control panel of any heat pump, signals of the thermostat will be given to the mainboard of the corresponding heat pump, and other heat pumps also will act with this thermostat. Under the control of the thermostat, it is unavailable to do On/Off operation and mode setting at the group controller.



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