

**CONTROL AND OPERATION  
MANUAL**

**USER**



**MONOBLOCK INVERTER  
AIR TO WATER HEAT PUMPS**

SMH-100IRB  
SMH-160IRB



## To Users

Thank you for selecting Sinclair 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) In order to make the product better, we will continuously conduct improvement and innovation. We have the right to make necessary revision to the product from time to time due to the reason of sales or production, and reserve the right to revise the contents 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.

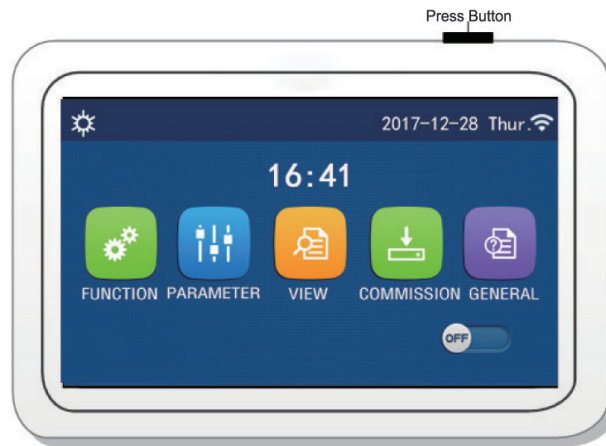
Once the air conditioning unit is installed where possibly subject to electromagnetic interference, shielded twisted pairs should be used as signal lines and other communication lines.

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



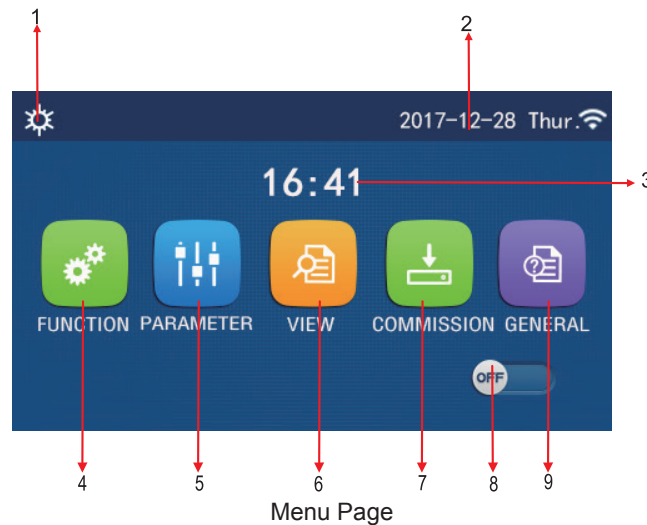
(This picture is just for reference)

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

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

This is a generous-purpose controller, whose control functions might not be completely the same as those of the actually purchased. As the control program will update, the actual always prevails.











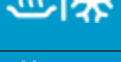









## 1.1 Menu Page



Menu Page

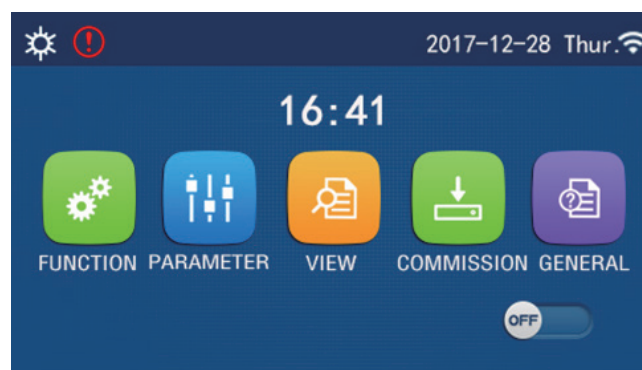
Above the menu, the corresponding icon will be displayed based on the mode and status of the controller.

No	Item	Description
1	Current mode	Current mode
2	Data	Current data
3	Time	Current time
4	Function setting	Go to the user setting page.
5	Parameter setting	Go to the parameter setting page.
6	Parameter viewing	Go to the parameter viewing page.
7	Commissioning parameters	Go to the commissioning parameter setting page.
8	ON/OFF	It is used to turn on or off the unit. "OFF" indicates the unit has turned off and "ON" indicates the unit has turned on. When there is failure-level error, this button will turn to OFF once the unit is automatically turned off.
9	General setting	Go to the general parameter setting page.

Icon	Description	Icon	Description
	Heating		Floor commissioning
	Cooling		Floor commissioning error
	Hot water		Card out
	Heating + Hot water		Defrosting
	Hot water + Heating		Holiday
	Cooling + Hot water		WiFi
	Hot water + Cooling		Back
	Quiet		Menu page
	Sanitation		Save
	Emergency		Error

[Notes]

- The “Cooling” mode is unavailable to the heating only unit.
- The “Hot water” mode is unavailable to the heating only unit.
- The “Heating + Hot water” (“Hot water” takes the priority) is unavailable to the mini chiller.
- The “Hot water + Heating” (“Heating” takes the priority) is unavailable to the mini chiller.
- The “Cooling + Hot water” (“Hot water” takes the priority) is unavailable to the mini chiller.
- The “Hot water + Cooling” (“Cooling” takes the priority) is unavailable to the mini chiller.
- The “Sanitation” function is unavailable to the mini chiller.



Error Icon

[Notes]

- At any other page, where there is no operation in 10 minutes, the display panel will back to the menu page.

## 1.2 Backlight

Among the general setting page, when “**Back light**” is set to “**Energy save**”, the display panel will light off when there is no operation in 5 minutes. However, it will light on again by touching any valid area.

When “**Back light**” is set to “**Lighted**”, the display panel will be kept lighting on.

It is suggested to set it to “**Energy save**” so as to extend its service life.

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## 2. Operation Instructions

### 2.1 ON/OFF

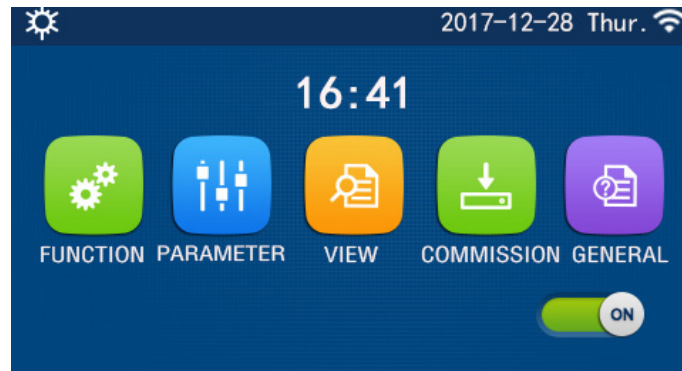
[Operation Instructions]

At the menu page, by touching ON/OFF, the unit will be turned on/off.

[Notes]

- It is defaulted to be OFF upon first power-on.
- ON/OFF operation will be memorized by setting “On/Off Memory” to be “On” at the “GENERAL.” setting page.

That is, in case of power failure the unit will resume running upon power recovery. Once “On/off Memory” is set to be “Off”, in case of power failure the unit will keep “Off” upon power recovery.

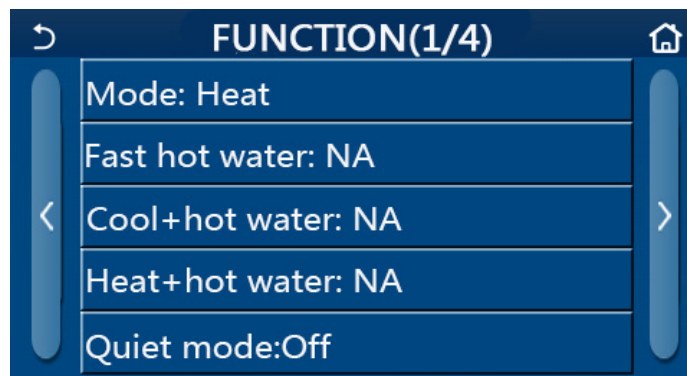


ON Page

### 2.2 Function Setting

[Operation Instructions]

1. At the menu page, by touching “FUNCTION”, it will go to the function setting page as shown in the figure below.



FUNCTION Setting Page

2. At the function setting page, by touching the page turning key, it will access to the last or next page. When setting is finished, by touching the homepage icon, it will directly back to the homepage; by touching the back icon, it will back to the upper menu.

3. At the function setting page, by pressing the desired function, it will access to the corresponding setting page of this option.

4. At the function setting page of some function option, by touching “OK”, this setting will be saved; by touching the “CANCEL” key, this setting will be canceled.

[Notes]

- At the function setting page with setting of any function changed, if the function is set to be memorized upon power failure, this setting will be saved automatically and memorized upon next power-on.

- When there is submenu for the selected function option, by pressing it the control will go directly the setting page of the submenu.

- “NA” will be displayed for unavailable functions of the heating only units and mini chillers. When setting these functions, the controller will tell setting of this parameter is unallowed.

### Function Setting

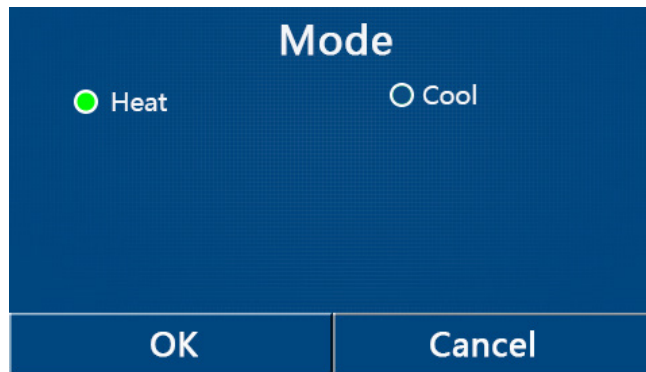
No	Item	Range	Default	Remarks
1	Mode	Cool	Heat	1. When the water tank is unavailable, then only "Cool" and "Heat" are available. 2. For the heating only unit, only "Heat" mode, "Hot water", and "Heat + hot water" are available. 3. It is defaulted to be "Heat" for the heat pumps and heating only units and "Cool" for mini chillers.
		Heat		
		Hot water		
		Cool + Hot water		
		Heat + Hot water		
2	Fast hot water	On/Off	Off	1. When the water tank is unavailable, it will be reserved.
3	Cool + hot water	Cool/Hot water	Cool	1. When the water tank is available, it will be defaulted to be "Hot water"; when unavailable, it will be reserved.
4	Heat + hot water	Heat/Hot water	Heat	1. When the water tank is available, it will be defaulted to be "Hot water"; when unavailable it will be reserved.
5	Quiet mode	On/Off	Off	/
6	Quiet timer	On/Off	Off	/
7	Weather depend	On/Off	Off	/
8	Weekly timer	On/Off	Off	/
9	Holiday release	On/Off	Off	
10	Disinfection	On/Off	Off	When the water tank is unavailable, it will be reserved The disinfection date ranges from Monday to Sunday. Saturday is defaulted. 23:00. The disinfection time ranges from 00:00~23:00. 23:00 is defaulted.
11	Clock timer	On/Off	Off	/
12	Temp. timer	On/Off	Off	/
13	Emergen. mode	On/Off	Off	/
14	Holiday mode	On/Off	Off	/
15	Preset mode	On/Off	Off	/
16	Error reset	/	/	Some error can be cleared only when it has been reset manually.
17	WiFi reset			It is used to reset the WiFi.
18	Reset	/	/	It is used to reset all user parameter setting.

#### 2.2.1 Mode

[Operation Instructions]

At the function setting page with the unit turned off, by touching "Mode", it will go to the mode setting page, where desired mode can be selected. Then by touching "OK" this setting will be saved and the display panel will back to the function setting page.





[Notes]

- The default mode is “**Heat**” upon first power-on.
- Mode setting is allowed only when the unit is turned off, otherwise a dialog box will pop up, saying “Please turn off the system first!”
- When the water tank is unavailable, only ‘**Heat**’ and “**Cool**” mode are allowed.
- When the water tank is available, “**Cool**”, “**Heat**”, “**Hot water**”, “**Cool+ Hot water**”, and “**Heat+ Hot water**” are allowed.
- For the heat pump, the “**Cool**” mode is allowed; for the heating only unit, “**Cool+ Hot water**” and “**Cool**” are unallowable.
- This setting can be memorized upon power failure.

### 2.2.2 Fast Hot Water

[Operation Instructions]

At the function setting page with the unit turned off, by touching “**Fast hot water**”, the display panel will go to the corresponding setting page, where desired option can be selected. Then by pressing “**OK**” this setting will be saved and the display panel will back to the function setting page.

[Notes]

- This function can be set to “**On**” only when the water tank is available. When the water tank is unavailable, this function will be reserved.
- It will be memorized upon power failure.
- This function is unavailable to mini chillers.

### 2.2.3 Cool + hot water

[Operation Instructions]

At the function setting page with the unit turned off, by touching “**Cool + hot water**”, the display panel will go to the corresponding setting page, where desired option can be selected. Then by pressing “**OK**” this setting will be saved and the display panel will back to the function setting page.

[Notes]

- When the water tank is unavailable, it will be reserved; when it is unavailable, the default priority will be given to “**Hot water**”.
- It will be memorized upon power failure.
- This function is unavailable to mini chillers.

### 2.2.4 Heat + hot water

[Operation Instructions]

At the function setting page with the unit turned off, by touching “**Heat + hot water**”, the display panel will go to the corresponding setting page, where desired option can be selected. Then by pressing “**OK**” this setting will be saved and the display panel will back to the function setting page.

[Notes]

- When the water tank is unavailable, it will be reserved; when it is unavailable, the default priority will be given

to “Hot water”.

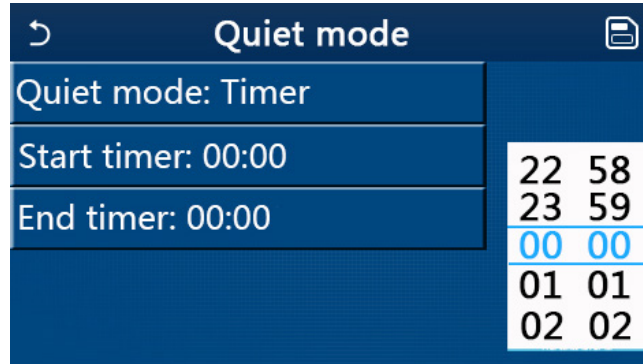
- It will be memorized upon power failure.
- This function is unavailable to the heating only unit and the mini chiller.

### 2.2.5 Quiet Mode

[Operation Instructions]

At the function setting page with the unit turned off, by touching “Quiet mode”, there will be a choice box, where “Quiet mode” can be set to “On”, “Off”, or “Timer”.

When it is set to “Timer”, it is also required to set the “Start timer” and “End timer”. Unless otherwise stated, otherwise time setting is all the same.



Timer for Quite Mode

3. This setting will be saved by touching the corner at the upper right corner.

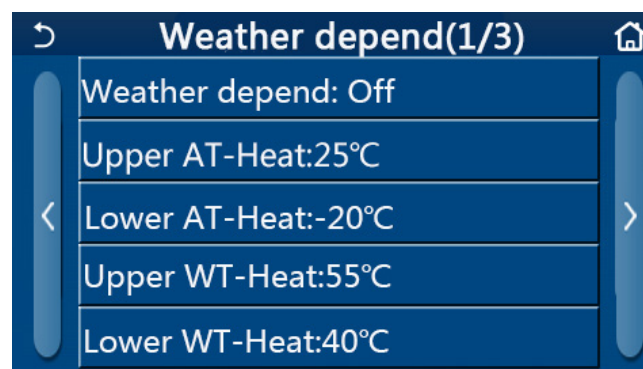
[Notes]

- It can be set under both ON and OFF statuses, but will work only when the main unit is turned on.
- When it is set to “On”, it will automatically back to “Off” when the main unit is turned off; while it is set to “Timer”, this setting will remain when the main unit is turned off and can only be canceled manually.
- It will be memorized upon power failure.

### 2.2.6 Weather Depend

[Operation Instructions]

At the function setting page, by touching “Weather depend”, there will be a choice box, where it is able to set it to “On” or “Off”, and also it is able to set the weather-dependent temperature.



Page of the Weather Depend

[Notes]

- When “Weather depend” has been activated; it cannot be deactivated by ON/OFF operation but done manually.
- It is available to find the weather-dependent target temperature at that parameter viewing pages.
- When this function has been activated, it is still allowed to set the room temperature, however, this setting becomes valid only when “Weather depend” has been deactivated.
- This function can be set to “On” no matter the unit is turned on or off, but works only when the unit is turned on.

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●It works under the “Cool” or “Heat” mode. Under the “Cool +Hot water” or “Heat +Hot water” modes, it works only when the current mode is “Cool” or “Heat”. Under the “Hot water” mode, it doesn’t work.

- Temperature setting relative to the cooling mode is unallowed to the heating only unit.
- It will be memorized upon power failure.

### 2.2.7 Weekly Timer

[Operation Instructions]

1. At the function setting page, by touching “Weekly timer”, it will go to the setting page as shown below.



2. At the “Weekly timer” setting page, as shown in the figure below, the weekly timer can be set to “On” or “Off”.

3. At the “Weekly timer” setting page, by touching the desired day (Monday ~ Sunday) it will access to the setting page of this option.

4. At the weekday setting page, it is able to set the timer to “Valid” or “Invalid”. Also, it is able to set three timing periods, each of which can be set to “Valid” or “Invalid”.

5. Then, by touching the “Save” icon, this setting will be saved.

[Notes]

●Three periods can be set for each day. The start time should be earlier than the end time for each period, otherwise this setting will be invalid. In the same way, the latter should be earlier than the former.

●When the weekly timer has been activated, the display panel will act based on the current mode and temperature setting.

●Timer setting for the weekday

“Valid” it indicates this setting works only when “Weekly timer” has been activated, unaffected by the holiday mode.

“Invalid” indicates this setting does not work even though the “Weekly timer” has been activated.

●When both “Weekly timer” and “Holiday release” have been activated, setting of “Weekly timer” is invalid. Only when “Holiday release” has been deactivated, setting of “Weekly timer” works.

●The priority sequence for timer setting from high to low is “Temperature timer”, “Clock timer”, “Preset mode” and “Weekly timer”. Setting with lower priority sequence is allowed but does not work when setting with higher priority has been activated. However, it will work when the setting with higher priority has been deactivated.

●It will be memorized upon power failure.

### 2.2.8 Holiday Release

[Operation Instructions]

At the function setting page, by touching “Holiday release”, it will go to the corresponding setting page, where it can be set to “On” or “Off”.

[Notes]

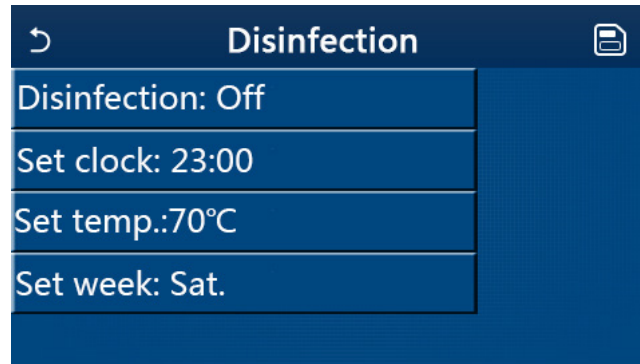
●When this function has been activated, at the “Weekly timer” setting page, some week day can be set to “Holiday release”. In this case, the setting of the “Weekly timer” at this day is invalid unless it has been manually set to “Valid”.

●It will be memorized upon power failure.

## 2.2.9 Disinfection

[Operation Instructions]

1. At the function setting page, access to “**Disinfection**” setting page.
2. At the “**Disinfection**” setting page, it can select the disinfection clock, disinfection temperature and disinfection week and the corresponding setting page will pop up at the right side.
3. Then, this setting will be saved by touching the “**Save**” icon.



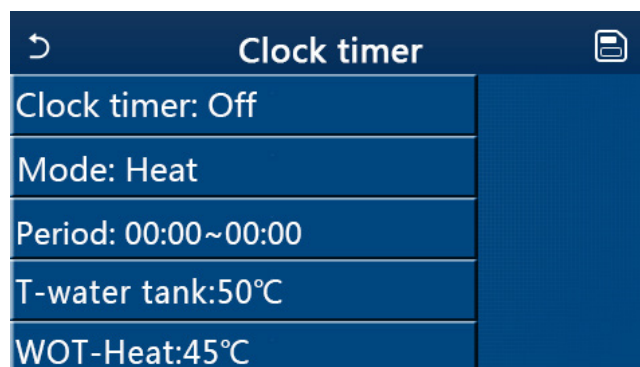
[Notes]

- This function is unavailable to mini chillers.
- This setting can be activated only when “**Water tank**” is set to “**With**”. When “Water tank” is set to “**Without**”, this function will be deactivated.
  - This setting can be done no matter if the unit is turned on or off.
  - When “**Emergen. mode**”, “**Holiday mode**”, “**Floor debug**”, “**Manual defrost**”, or “**Refri. recovery**” has been activated, this function cannot be activated at the same time. When “**Disinfection**” has been activated, “**Emergen. mode**”, “**Holiday mode**”, “**Floor debug**”, “**Manual defrost**”, or “**Refri. recovery**” setting will fail and a window will pop up, saying “**Please disable the disinfect mode!**”
  - “**Disinfection**” can be activated no matter if the unit is turned on or off. This mode will take priority over the “**Hot water**” mode.
  - When disinfection operation fails, the display panel will tell “**Disinfection fail!**”. Then, by pressing OK it will be cleared.
  - When “**Disinfection**” has been activated, if communication error with the indoor unit or malfunction of the water tank heater occurs, it will automatically quit.
  - It will be memorized upon power failure.

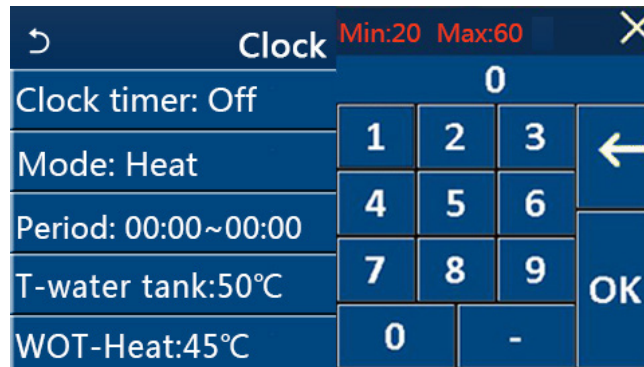
## 2.2.10 Clock Timer

[Operation Instructions]

1. At the function setting page, access to the “**Clock timer**” setting page.
2. At the “**Clock timer**” setting page, it can be set to “**On**” or “**Off**”.



3. The option “**Mode**” is used to time the desired mode; “**WOT-Heat**” and “**T-water tank**” is used to set the corresponding water temperature; “**Period**” is used to for time setting. After that, by touching the “**Save**” icon, all settings will be saved.



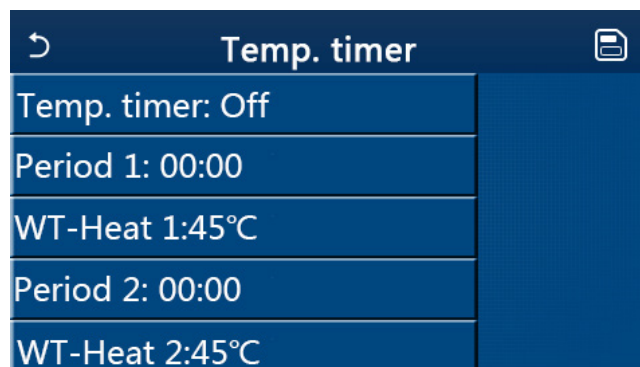
[Notes]

- When “**Clock timer**” has been set and “**Hot water**” mode is involved, in this case, if “**Water tank**” is changed to “**Without**”, “**Hot water**” will be automatically switched to “**Heat**”, and “**Cool/Heat + Hot water**” will be switched to “**Cool/Heat**”.
- When “**Weekly timer**” and “**Clock timer**” have been set at the same time, the priority will be given to the former.
- When the water tank is available, “**Heat**”, “**Cool**”, “**Hot**”, “**Heat + Hot water**”, and “**Cool + Hot water**” are allowed; however, when the water tank is unavailable, only “**Heat**” and “**Cool**” are allowed.
- When the end time is earlier than the start time, this setting is invalid.
- Water tank temperature can be set only when “**Hot water**” is involved in the operation mode.
- The setting of “**Clock timer**” only works once. If this setting is needed again, it should be set again.
- It will be deactivated when the unit is turned on manually.
- When “**Weather depend**” has been activated and the mode for “**Clock timer**” is set to “**Hot water**”, “**Weather depend**” will be deactivated when the setting mode has been switched.
- This function will be memorized upon power failure.

### 2.2.11 Temp. Timer

At the function setting page, access to the “**Temp.timer**” setting page.

At the “**Temp.timer**” setting page, it can be set to “**On**” or “**Off**”.



Select “**Period 1**”/” **Period 2**” and a window will pop up, where time period can be set. Then select “**WT-Heat1/WT-Cool 1/2**” and also a window will pop up where temperature can be set.



[Notes]

- When “**Weekly timer**”, “**Preset mode**”, “**Clock timer**” “**Temp. timer**” have been set at the same time, then the latter takes the priority.
  - This setting is valid only when the unit is turned on.
  - Under the “**Cool**” or “**Cool+Hot water**” mode, the setting targets at “**WT-Cool**”; while under the “**Heat**” or “**Heat+Hot water**” mode, the setting targets at “**WT-Heat**”.
  - When start time of period 2 is the same as that of period 1, then the former takes prevalence.
  - “**Temp.timer**” is judged based on timer.
  - During this setting, when temperature is set manually, then this setting will take prevalence.
  - Under the “**Hot water**” mode, this function will be reserved.
  - This function will be memorized upon power failure.

### 2.2.12 Emergen. Mode

[Operation Instructions]

1. At the function setting page, set the mode to “**Heat**” or “**Hot water**”.
2. At the function setting page, select “**Emergen.mode**” and set it to “**On**” or “**Off**”.
3. When “**Emergen.mode**” has activated, the corresponding icon will appear at the upper side of the menu page.
4. When the mode is not set to “**Heat**” or “**Hot water**”, the display panel will tell “**Wrong running mode!**”

[Notes]

- The emergency mode is allowed on conditions that there is some error or protection and the compressor has stopped at least for three minutes. If the error or protection has not been recovered, the unit can access to the emergency mode through the wired controller (when the unit is off).
  - Under the emergency mode, “**Hot water**” or “**Heat**” cannot be performed at the same time.
  - When the running mode is set to “**Heat**”, if “**Other thermal**” or “**Optional E-Heater**” is set to “**Without**”, the unit will fail to access to the “**Emergen. mode**”.
  - When the unit performs “**Heat**” under “**Emergen. mode**” and the controller detects “**HP-Water Switch**”, “**Auxi. heater 1**”, “**Auxi. heater 1**”, and “**Temp-AHLW**”, this mode will quit at once. In the same way, when errors mentioned above occur, “**Emergen. mode**” cannot be activated.
  - When the unit performs “**Hot water**” under “**Emergen. mode**” and the controller detects “**Auxi.-WTH**”, this mode will quit at once. In the same way, when errors mentioned above occur, “**Emergen. mode**” cannot be activated.
  - When this function has been activated, “**Weekly timer**”, “**Preset mode**”, “**Clock timer**”, and “**Temp timer**” will be deactivated. Beside “**On/Off**”, “**Mode**”, “**Quiet mode**”, “**Weekly timer**”, “**Preset mode**”, “**Clock timer**”, and “**Temp timer**” operation are unavailable.
    - Under “**Emergen. mode**”, the thermostat does not work.
    - This function can be activated only when the unit is turned off. If dosing so with the unit keeping “**On**”, a window will pop up, saying “**Please turn off the system first!**”.
    - “**Floor debug**”, “**Disinfection**”, and “**Holiday mode**” cannot be activated at the same with this function. When doing so, a window will pop up, saying “**Please disable the emergen. mode!**”.
    - Upon power failure, “**Emergen. mode**” will back to “**Off**”.

### 2.2.13 Holiday Mode

[Operation Instructions]

At the function setting page, select “**Holiday mode**” and set it to “**On**” or “**Off**”.

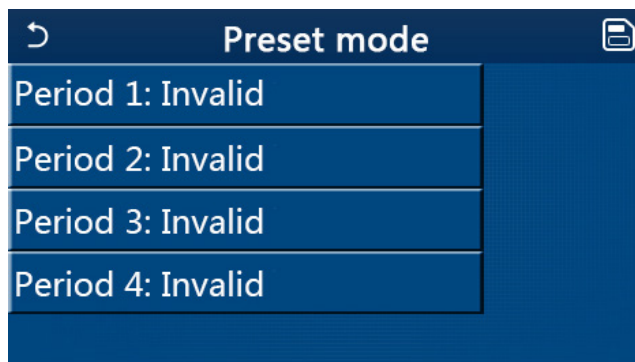
[Notes]

- This function can be activated only when the unit has been turned off, otherwise a prompt dialog box will pop up, saying “**Please turn off the system first!**”.
- When “**Holiday mode**” has been activated, the operation mode will automatically switch to “**Heat**”. Mode setting and “**On/Off**” operation through the controller will be unavailable.
- When “**Holiday mode**” has been activated, the controller will automatically deactivate the “**Weekly timer**” and “**Preset mode**” and “**Clock timer**” and “**Temp.timer**”.
- Under the “**Holiday mode**”, when the unit is under the control of room temperature, the set point (room temperature for heating) should be set to 10°C; when it is under the control of leaving water temperature, the set point (leaving water temperature for heating) should be 30°C.
- When this function has been activated, “**Floor debug**”, “**Emergen.mode**”, “**Disinfection**”, “**Manual defrost**”, “**Preset mode**”, “**Weekly timer**”, “**Clock timer**”, and “**Temp.timer**” cannot be activated at the same time, meanwhile a window will pop up, saying “**Please disable the holiday mode!**”.
- This function will be memorized upon power failure.

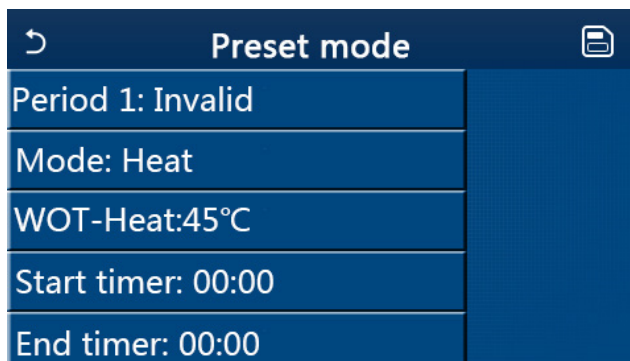
### 2.2.14 Preset Mode

[Operation Instructions]

At the function setting page, select “**Preset mode**” and go to the corresponding setting page.



At the time period setting page, each time period can be set to “**Valid**” or “**Invalid**”.



The option “**Mode**” is used to preset the mode; “**WOT-Heat**” is used to set the leaving cold/hot water temperature; “**Start timer**” / “**End timer**” is used to for time setting. After that, by touching the “**Save**” icon, all settings will be saved.

[Notes]

- When “**Preset mode**” has been set to “**Hot water**” and “**Water tank**” is to set to “**Without**”, the preset “**Hot water**” mode will be automatically switched to “**Heat**”.
- When “**Weekly timer**” and “**Preset mode**” both have been set, priority will be given to the latter.
- When the water tank is available, the preset mode can be “**Heat**”, “**Cool**”, or “**Hot water**”; however, when the

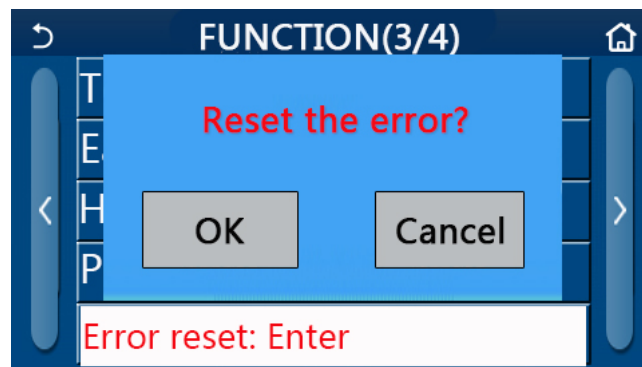
water tank is unavailable, the preset mode can only be “Heat” or “Cool”.

- “Start timer” should be earlier than “End timer”, otherwise a dialog will pop up, saying “time setting wrong”.
- The setting for “Preset mode” will work until it has been canceled manually.
- When “Start timer” is reached, the unit will perform the preset mode. In this case, mode and temperature setting are still allowed but will not be saved to the preset mode. When “End timer” is reached, the unit will perform OFF operation.
- This function will be memorized upon power failure.
- When “Weather depend” has been activated and the mode for “Preset mode” is set to “Hot water”, “Weather depend” will be deactivated when the setting mode has been switched.

### 2.2.15 Error Reset

[Operation Instructions]

At the function setting page, by touching “Error reset”, a choice box will pop up, where by touching “OK” the error will be reset and by touching “Cancel” the error will not be reset.



[Notes]

- It can be performed only when the unit is turned off.

### 2.2.16 WiFi Reset

[Operation Instructions]

At the function setting page, by touching “WiFi”, a choice box will pop up, where by touching “OK” , the WiFi setting will be reset, and by touching “Cancel” the choice box will quit and WiFi will not be reset.

### 2.2.17 Reset

[Operation Instructions]

At the function setting page, by touching “Reset”, a choice box will pop up, where by touching “OK” all user parameter settings will be reset and by touching “Cancel” it will back to the function setting page.

[Notes]

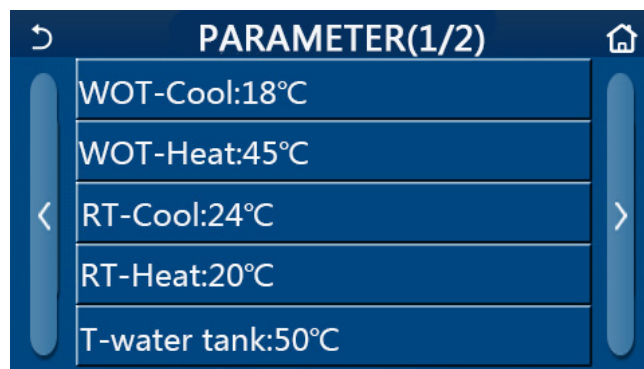
- This function is allowed only when the unit has turned off.
- This function is valid for “Temp. timer”, “Clock timer”, “Preset mode”, “Weekly timer”, and “Weather depend”.

## 2.3 User Parameter Setting

[Operation Instructions]

1. At the menu page, by touching “PARAMETER”, it will back to the parameter setting page, as shown in the figure below.





Parameter Setting Page

2. At the menu setting page, by touching the page turning keys, it is able to switch to the page where the desired parameter is.

3. After that, this setting will be saved by touching “OK” and then the unit will run based on this setting. While this setting will give up by touching “Cancel”.

[Notes]

For parameters with different defaults under different conditions, when conditions changes, the default value also will change as the corresponding condition changes.

All parameters will be memorized upon power failure.

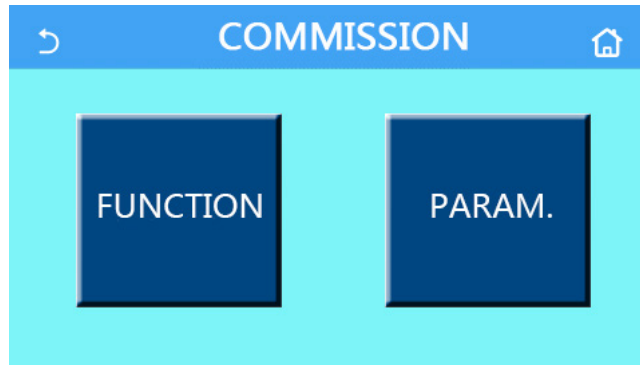
**Parameter Setting**

No	Full Name	Displayed Name	Range	Range	Default	Remarks
			( C )	(°F)		
1	Leaving water temperature for cooling(T1)	WOT-Cool	7~25 C	45~77°F	18 C /64°F	Unavailable to heating only units
2	Leaving water temperature for heating (T2)	WOT-Heat	20~60 C	68~140°F	45 C /113°F	High-temp series units
			20~55 C	68~140°F	45 C /113°F	Normal-temp series units
3	Room temperature for cooling (T3)	RT-Cool	18~30 C	64~86°F	24 C /75°F	Unavailable to heating only units
4	Room temperature for heating (T4)	RT-Heat	18~30 C	64~86°F	20 C /68°F	/
5	Water tank temperature(T5)	T-water tank	40~80 C	104~176°F	50 C /122°F	Unavailable to mini chillers
6	Leaving water temperature difference for cooling ( $\Delta t_1$ )	$\Delta T$ -Cool	2~10 C	36~50°F	5 C /41°F	Unavailable to mini chillers
7	Leaving water temperature difference for heating ( $\Delta t_2$ )	$\Delta T$ -Heat	2~10 C	36~50°F	10 C /50°F	/
8	Leaving water temperature difference for water heating ( $\Delta t_3$ )	$\Delta T$ -hot water	2~8 C	36~46°F	5 C /41°F	Unavailable to mini chillers
9	Room temperature control difference ( $\Delta t_4$ )	$\Delta T$ -Room temp	1~5 C	34~41°F	2 C /36°F	/

## 2.4 Commissioning Parameter Setting

[Operation Instructions]

1. At the menu page, by touching “**Commission**”, it will access to the commissioning parameter page, where the left side is for the function setting and the right side is for the parameter setting, as shown in the figure below.



[Notes]

At the commissioning parameter setting page, when the state of any function changes, the system will automatically save this change and this change will remain upon power failure.

Do not modify any commissioning parameter except the approved qualified servicemen, as it would give birth to adverse effects to the unit.

**Commissioning Function Setting**

No.	Item	Range	Default	Description
1	Ctrl. state	T-water out/T-room	T-water out	When “ <b>Remote sensor</b> ” is set to “ <b>With</b> ”, it can be set to “ <b>T-room</b> ”.
2	2-Way valve	Cool 2-Way valve, On/Off	Off	It will decide the status of the 2-way valve under the “ <b>Cool</b> ” and “ <b>Cool + Hot water</b> ” modes. Under “ <b>Cool</b> ” or “ <b>Cool + Hot water</b> ” mode, the status of the 2-way valve depends on this setting. This setting is unavailable to heating only units.
		Heat 2-Way valve, On/Off	On	It will decide the status of the 2-way valve under the “ <b>Heat</b> ” and “ <b>Heat + Hot water</b> ” modes
5	Solar setting	With/Without	Without	When the water tank is unavailable, this setting will be reserved. When it is set to “ <b>With</b> ”, the solar kitting will work on its own. When it is set to “ <b>Without</b> ”, hot water by the solar kitting is unavailable.
6	Water tank	With/Without	Without	Unavailable to mini chillers.
7	Thermostat	Without/Air/Air+ hot water	Without	This setting cannot be interchanged between “ <b>Air</b> ” and “ <b>Air+ hot water</b> ” directly but via “ <b>Without</b> ” this option
		On/Off	Off	This setting is available to mini chillers.
8	Other thermal	With/Without	Without	/
9	Optional E-Heater	Off/1/2	Off	/
10	Remote sensor	With/Without	Without	When it set to “ <b>Without</b> ”, and the “ <b>Ctrl. state</b> ” will be defaulted to be “ <b>T-water out</b> ”.

11	Air removal	On/Off	Off	/
12	Floor debug	On/Off	Off	/
13	Manual defrost	On/Off	Off	/
14	Force mode	Off/Force-cool/Force-heat	Off	"Force-cool" is unavailable to heating only units.
15	Tank heater	Logic 1/Logic 2	Logic 1	1. This setting is allowed when the water tank is available and the unit is OFF. 2. Unavailable to mini chillers.
16	Gate-Ctrl.	On/Off	Off	/
17	Current Limit	On/Off	Off	It ranges from 0 to 50A and the default is 16A.
18	Address	[1-125] [127-253]	1	/
19	Refri. recovery	On/Off	Off	/

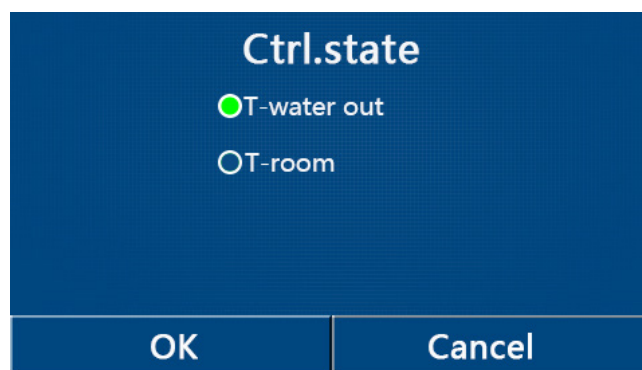
#### Commissioning Parameters Setting

No	Full Name	Display Name	Range		Default	Remark
1	T-HP max	T-HP max	40~55 C	104~131°F	50 C /122°F	
2	Cool run time	Cool run time	1~10min		3min [2-way valve Off] 5min [2-way valve On]	
3	Heat run time	Heat run time	1~10min		3min [2-way valve Off] 5min [2-way valve On]	

#### 2.4.1 Ctrl. state

[Operation Instructions]

At the commissioning parameter setting page, by touching “Ctrl. state”, it can be set to “T-water out” or “T-room”



[Notes]

- When “Remote sensor” is set to “With”, this setting can be set to “T-water out” or “T-room”. When “Remote sensor” is set to “Without”, this setting can only be set to “T-water out”.

- This setting will be memorized upon power failure.

---

### 2.4.2 2-Way valve

[Operation Instructions]

At the commissioning parameter setting page, by touching “**Cool 2-Way valve**” or “**Heat 2-Way valve**”, the control panel will access to the corresponding setting page.

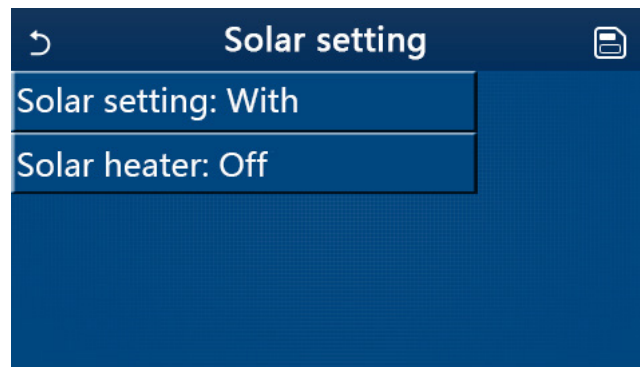
[Notes]

- This setting is unavailable to heating only units.
- Under “**Cool**”, or “**Cool + Hot water**” mode, “**Cool 2-Way valve**” will decide the status of the 2-way valve; while under “**Heat**” or “**Heat + Hot water**”, “**Heat 2-Way valve**” will decide the status of the 2-way valve.
- It will be memorized upon power failure.

### 2.4.3 Solar Setting

[Operation Instructions]

1. This setting is unavailable to mini chillers.
2. At the commissioning parameter setting page, by touching “**Solar setting**”, the control panel will access to its submenu page.
3. At the submenu page, “**Solar setting**” can be set to “**With**” or “**Without**”.
4. At the submenu page, the “**Solar heater**” can be set to “**On**” or “**Off**”.



Solar Setting

[Notes]

- This setting can be done no matter if the unit is turned on or off.
- This setting is allowed only when the water tank is available. When the water tank is unavailable, this setting will be reserved.
- It will be memorized upon power failure.

### 2.4.4 Water Tank

[Operation Instructions]

At the commissioning parameter setting page, by touching “**Water tank**”, the control panel will access to the corresponding setting page, where “Water tank” can be set to “**With**” or “**Without**”.

[Notes]

- This setting will be memorized upon power failure.
- This setting will become valid only when the unit is turned off.

### 2.4.5 Thermostat

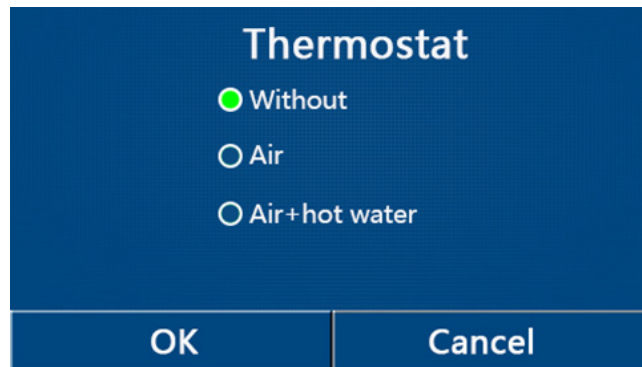
[Operation Instructions]

1. At the commissioning parameter setting page, by touching “**Thermostat**”, the control panel will access to the corresponding setting page.

2. At the “**Thermostat**” setting page, it can be set to “**Air**”, “**Without**” or “**Air + hot water**”. When it is set to “**Air**” or “**Air + hot water**”, the unit will run based on the mode set by the thermostat; when it is set to “**Without**”, the unit

will run based on the mode set by the control panel. For mini chillers, it can be set to "On" or "Off".

3. For mini chillers, it can be set to "On" or "Off".



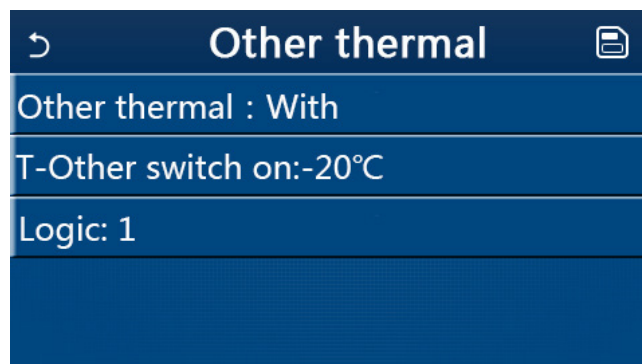
[Notes]

- When "Water tank" is set to "Without", the "Air + hot water" mode is unavailable.
- When "Floor debug" and "Emergen.mode" have activated, function of the thermostat will be invalid.
- When "Thermostat" is set to "Air" or "Air + hot water", "Temp.timer" will be deactivated automatically and the unit will run based on the mode set by the thermostat. Meanwhile, mode setting and On/Off operation by the control panel will be ineffective.
- When "Thermostat" is set to "Air", the unit will run based on the setting of the thermostat.
- When "Thermostat" is set to "Air + hot water", when the thermostat is turned off, the unit can still perform the "Hot water" mode. In this case, the ON/OFF icon at the homepage does not indicate the running status of the unit. Running parameters are available at the parameter viewing pages.
- When "Thermostat" is set to "Air + hot water", operation priority can be set by the control panel (see Section 2.2.3 and 2.2.4 for more details.)
- The status of the thermostat can be changed only when the unit is turned off.
- When it has been activated, "Floor debug", "Air removal", and "Emergen.mode" are not allowed to be activated.
- This setting will be memorized upon power failure.

#### 2.4.6 Other Thermal

[Operation Instructions]

1. At the commissioning parameter setting page, by touching "Other thermal", the control panel will access to the corresponding setting page.
2. At the "Other thermal" setting page, "Other thermal" can be set to "With" or "Without", "T-Other switch on" can be set to the desired value. When "Other thermal" is set to "With", it is allowed to set the operating mode for the backup thermal source.



[Notes]

- This setting will be memorized upon power failure.
- There are three working logics for it.

---

#### Logic 1

1. The set point of other thermal should be equal to that of **“WOT-Heat”** in **“Heat”** mode and **“Heat + hot water”** mode; The set point should be the smaller one between **“T-Water tank ”** +5°C and 60°C in **“Hot water”** mode.

2. The water pump for other thermal must be always active under the **“Heat”** mode.

3. Under the **“Heat”** mode, the 2-way valve will be controlled based on the setting of the control panel. During heating operation, the water pump of the heat pump unit will be stopped; however, during standby status, the water pump will start but the other thermal will stop.

Under the **“Hot water”** mode, the 3-way valve will switch to the water tank, the water pump of the heat pump will always stop but the other thermal will start.

Under the **“Heat + Hot water”** mode, the other thermal only works for space heating, and the electric heater of the water tank works for water heating. In this case, the 2-way valve is controlled based on the setting of the control panel, and the 3-way valve will always stop. During heating operation, the water pump of the heat pump unit will be stopped; however, during standby status, the water pump will start.

#### Logic 2

1. The set point of other thermal should be equal to that of **“WOT-Heat”** and both are or lower than 60°C in **“Heat”** mode and **“Heat + hot water”** mode; The set point should be the smaller one between **“T-Water tank ”** +5°C and 60°C in **“Hot water”** mode.

2. The water pump for other thermal must be always active under the **“Heat”** mode.

3. Under the **“Heat”** mode, the 2-way valve will be controlled based on the setting of the control panel. During heating operation, the water pump of the heat pump unit will be stopped; however, during standby status, the water pump will start but the other thermal will stop.

Under the **“Hot water”** mode, the 3-way valve will switch to the water tank, the water pump of the heat pump will always stop but the other thermal will start.

Under the **“Heat + Hot water”** mode (**“Heat”** takes the priority), the other thermal only works for space heating, and the electric heater of the water tank works for water heating. In this case, the 2-way valve is controlled based on the setting of the control panel, and the 3-way valve will always stop. During heating operation, the water pump of the heat pump unit will be stopped; however, during standby status, the water pump will start.

Under the **“Heat + Hot water”** mode (**“Hot water”** takes the priority), the other thermal works for space heating and water heating. The other thermal will work for water heating firstly, after reached **“T-water tank”**, other thermal turns to space heating.

#### Logic 3

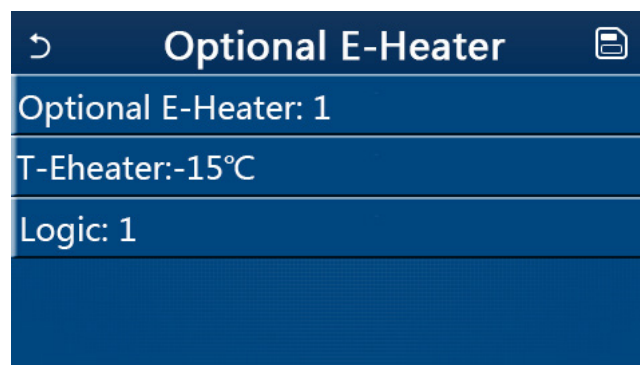
The heat pump will only send a signal to other thermal, but all the logic of control must be **“stand alone”**.

#### 2.4.7 Optional E-Heater

[Operation Instructions]

1. At the commissioning parameter setting page, by touching **“Optional E-Heater”**, the control panel will access to the corresponding setting page.

2. At the **“Optional E-Heater”** setting page, it can be set to **“1”**, **“2”** or **“Off”**.



[Notes]

- This setting will be memorized upon power failure.
- Either “**Other thermal**” or “**Optional E-Heater**” can be activated at the same time.
- There are two working logics for “**Optional E-heater**”.

Logic 1: either the heat pump or the optional electric heater can be started at the same time.

Logic 2: both the heat pump and the optional electric heater can be started at the same time after the compressor has run for four minutes and  $T_{\text{Optional Water Temp}}$  is equal to or lower than  $WOT\text{-heat}-\Delta t_2$ .

#### 2.4.8 Remote Sensor

[Operation Instructions]

At the commissioning parameter setting page, by touching “**Remote sensor**”, the control panel will access to the corresponding setting page, where it can be set to “**With**” or “**Without**”.

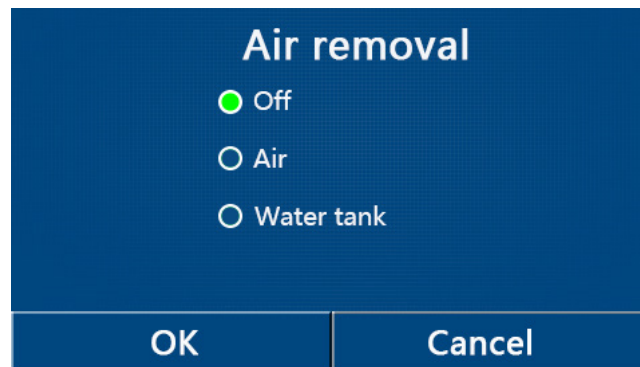
[Notes]

- This setting will be memorized upon power failure.
- Only when “**Remote sensor**” is set to “**With**”, the “**Ctrl. State**” can be set to “**T-room**”.

#### 2.4.9 Air Removal

[Operation Instructions]

At the commissioning parameter setting page, by touching “**Air removal**”, the control panel will access to the corresponding setting page, where it can be set to “**On**” or “**Off**”.



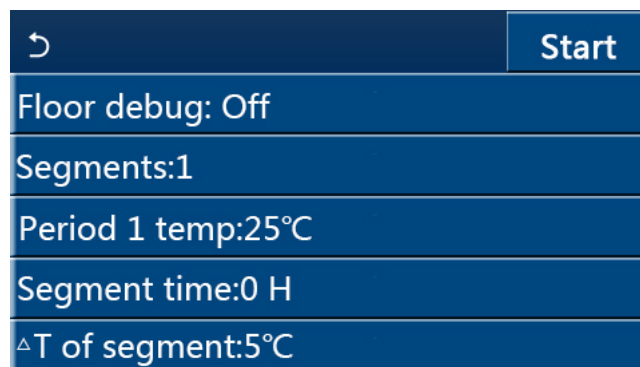
[Notes]

- This setting will be memorized upon power failure.
- This setting can be done only when the unit is turned off. And when it is set to “**On**”, the unit is not allowed to be turned on.

#### 2.4.10 Floor Debug

[Operation Instructions]

1. At the commissioning parameter setting page, by touching “**Floor debug**”, the control panel will access to the corresponding setting page.



2. At the setting page, “**Floor debug**”, “**Segments**”, “**Period 1 temp**”, “**Segment time**”, and “**ΔT of segment**” can be set.

No.	Full Name	Displayed Name	Range	Default	Accuracy
1	Floor debug switch	Floor debug	On/Off	Off	/
2	Quantity of segments	Segments	1~10	1	1
3	Temperature of the first segment	Period 1 temp	25~35 C / 77~95°F	25 C / 77°F	1 C
4	Duration of each segment	Segment time	12~72 hours	0	12 hours
5	Temperature difference of each segment	ΔT of segment	2~10 C / 36~50°F	5 C / 41°F	1 C

3. When this setting is finished, by pressing **“Start”** this setting will be saved and start working, and by pressing **“Stop”** the function will halt.

[Notes]

- This function can be activated only when the unit is turned off. When it is done with the unit keeping **“On”**, a window will pop up, saying **“Please turn off the system first!”**.

- When this function has been activated, **“On/Off”** operation will be deactivated. By pressing On/Off, a window will pop up, saying **“Please disable the floor debug!”**.

- When **“Floor debug”** has been activated; **“Weekly timer”**, **“Clock Timer”**, **“Temp timer”** and **“Preset mode”** will be deactivated.

- **“Emergen. mode”**, **“Disinfection”**, **“Holiday mode”**, **“Manual defrost”**, **“Forced mode”** and **“Refri. recovery”** cannot be activated at the same time with **“Floor debug”**. If doing so, a window will pop up, saying **“Please disable the floor debug!”**.

- Upon power failure, **“Floor debug”** will back to **“Off”** and the runtime will be zeroed.

- When **“Floor debug”** has been activated, **“T-floor debug”** and **“Debug time”** can be viewed.

- When **“Floor debug”** has been activated and works normally; the corresponding icon will be displayed at the upper side of the menu page.

- Before activating **“Floor debug”**, make sure **“Segment time”** of each segment is not zero. If so, a window will pop up, saying **“Segment time wrong!”** In this case, **“Floor debug”** is allowed to be activated only when **“Segment time”** has changed.

#### 2.4.11 Manual Defrost

[Operation Instructions]

At the commissioning parameter setting page, by touching **“Manual defrost”**, the control panel will access to the corresponding setting page.

[Notes]

- This setting will not be memorized upon power failure.

- This setting can be set only when the unit has turned off. When this function has been activated, ON operation is un-allowed.

- Defrosting will quit when the defrosting temperature goes to 20 °C or the defrosting duration is equal to 10 minutes.

#### 2.4.12 Force Mode

[Operation Instructions]

1. At the commissioning parameter setting page, by touching **“Force mode”**, the control panel will access to the corresponding setting page.

2. At the **“Force mode”** setting page, it can be set to **“Force-cool”**, **“Force-heat”**, and **“Off”**. When it is set to **“Force-cool”** or **“Force-heat”**, the control panel will directly go back to the homepage and response to any touching operation except the ON/OFF operation, with a window popping up, saying **“The force-mode is running!”**. In this case, by touching ON/OFF, **“Force mode”** will quit.

[Notes]

- This function is allowed only when the unit has just repowered and not turned on. For the unit which once has



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been put into operation, this function is unavailable, alerting “**Wrong operation!**”.

- It will not be memorized upon power failure.

#### 2.4.13 Gate-Ctrl.

[Operation Instructions]

At the commissioning parameter setting page, by touching “**Gate-Ctrl.**”, the control panel will access to the corresponding setting page.

[Notes]

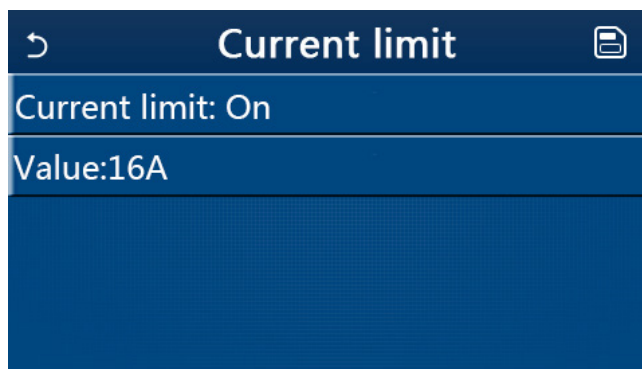
•When “**Gate-Ctrl.**” has been activated; the display panel will detect the card state. When the card has inserted, the unit will run normally. When the card is drawn out, the controller will turn off the unit at once and back to the homepage. In this case, all touching operation become ineffective, and a prompt dialog box will pop up. The unit will resume normal operation until the card has inserted back and the ON/OFF status of the control panel will resume to that before the card is drawn out.

- This setting will be memorized upon power failure.

#### 2.4.14 Current Limit

[Operation Instructions]

1. At the commissioning parameter setting page, by touching “**Current limit**”, it can be set to “**On**” or “**Off**”.
2. When it is set to “**On**”, it is able to set the limited current value.
3. After that, this setting will be saved by touching the “**Save**” icon.



[Notes]

- This setting will be memorized upon power failure.

#### 2.4.15 Address

[Operation Instructions]

At the commissioning parameter setting page, by touching “**Current limit**”, it can be set the address.

[Notes]

- It is used to set the address of the control panel for being integrated to the centralized control system.
- This setting will be memorized upon power failure.
- The setting range is 1~125 and 127~253.
- The defaulted address is 1 upon first power-on.

#### 2.4.16 Refrigerant Recovery

[Operation Instructions]

At the commissioning parameter setting page, by touching “**Refri. recovery**”, it will access to the refrigerant recovery page.

When “**Refri. recovery**” is set to “**On**”, the control panel will go back to the home page. At this time, any touch operation except ON/OFF will get no response, with a prompt dialog box popping up, saying “**The refrigerant recovery is running!**” By touching ON/OFF, refrigerant recovery will quit.

[Notes]

- This function is allowed only when the unit has just repowered and not turned on. For the unit which once has

been put into operation, this function is unavailable, alerting “Wrong operation”.

- This function will not be memorized upon power failure.

#### 2.4.17 Control Logic of the Water Tank Heater

[Operation Instructions]

At the commissioning parameter setting page, by touching “Tank heater”, it will access to the setting page of control logic for the water tank heater.

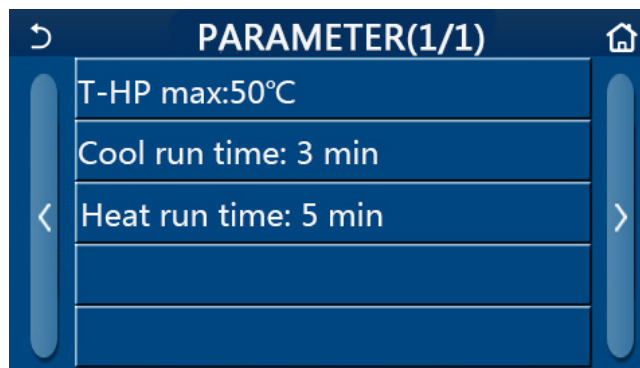
[Notes]

- “Reserved” will be displayed when the water tank is unavailable.
- This setting can be done only when the unit is off.
- This function can be memorized upon power failure.
- Logic 1: NEVER allowed the Unit’s Compressor and the Water Tank Electric Heater or the Optional Electric Heater to work at the same time.
- Logic 2: While Heating/ Cooling + Hot water mode (Hot Water priority)  $T_{set} \geq THP_{max} + \Delta T_{hot\ water} + 2$ , when water tank temperature reach  $THP_{max}$ , the water tank EH will be ON and start to do hot water, at the same time, the compressor will turn to heating/cooling mode, water tank EH and Compressor will be ON together.

#### 2.4.18 Parameter Setting

[Operation Instructions]

At the commissioning parameter setting page, by touching “PARAM.”, it will access to the pages as shown below.



Page of Commissioning Parameters

At this page, select the desired option and then go to the corresponding page.

After that, by pressing “OK”, this setting will be saved and then the unit will run based on this setting; or by pressing “Cancel”, this setting will not be saved and quit.

No	Full Name	Display Name	Range		Default	Remark
1	T-HP max	T-HP max	40~55℃	104~131°F	50℃ /122°F	It is unavailable to mini chillers.
2	Cool run time	Cool run time	1~10min		3min [2-way valve Off]	When “Cool run time” has expired and temperature difference keeps at the standby zone, the unit will stop.It is unavailable to mini chillers.
					5min [2-way valve On]	
3	Heat run time	Heat run time	1~10min		3min [2-way valve Off]	When “Heat run time” has expired and temperature difference keeps at the standby zone, the unit will stop.
					5min [2-way valve On]	

[Notes]

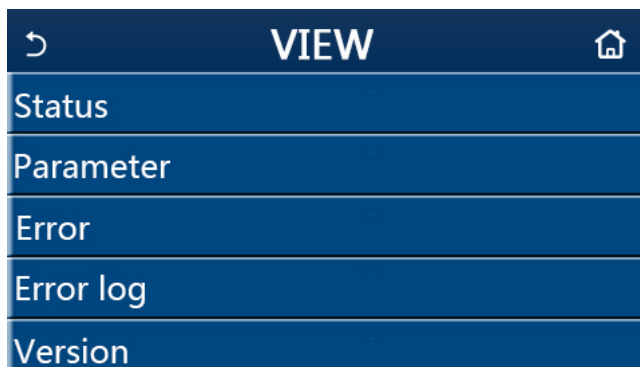
- For parameters with different defaults at different conditions, once the current condition changes, the corresponding default also will change.

- All parameters at this page will be memorized upon power failure.

## 2.5 Viewing

[Operation Instructions]

1. At the menu page, by touching “VIEW”, the control panel will go to the sub-menu page as shown in the figure below.

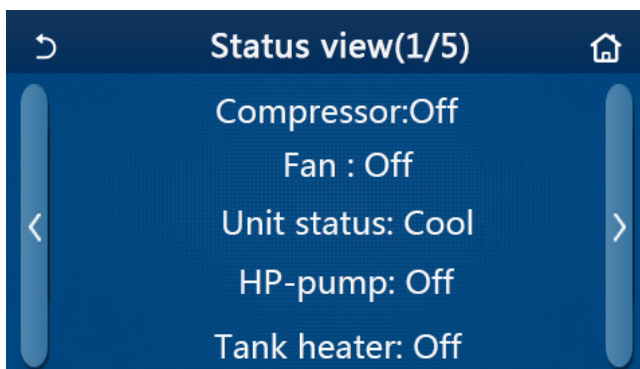


VIEW Page

### 2.5.1 Status Viewing

[Operation Instructions]

1. At the “VIEW” page, by touching “Status”, it is able to view status of the unit, as shown in the figure below.



Status View Page  
Viewable Status

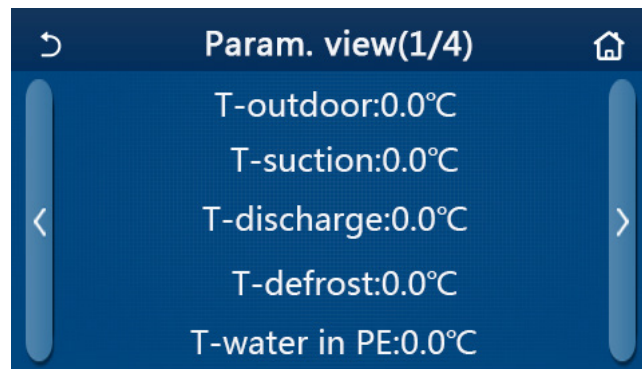
No	Full Name	Displayed Name	Status	Remarks
1	Status of the compressor	Compressor	On/Off	/
2	Status of the fan	Fan	On/Off	/
3	Status of the unit	Unit status	Cool/Heat/Hot water/Off	Unavailable to the heating only unit
4	Status of the water pump	HP-pump	On/Off	/
5	Status of the water tank heater	Tank heater	On/Off	“NA” for mini chillers
6	Status of the 3-way valve 1	3-way valve 1	NA	/
7	Status of the 3-way valve 2	3-way valve 2	On/Off	“NA” for mini chillers
8	Status of the compressor crankcase heater	Crankc. heater	On/Off	/
9	Status of the heater 1 for the main unit	HP-heater 1	On/Off	/
10	Status of the heater 2 for the main unit	HP-heater 2	On/Off	/
11	Status of the Chassis heater	Chassis heater	On/Off	/
12	Status of the heat exchanger heater	Plate heater	On/Off	/
13	Status for the system defrosting	Defrost	On/Off	/
14	Status of the system oil return	Oil return	On/Off	/

15	Status of the thermostat	Thermostat	Off/Cool/Heat	"Cool" is unavailable to the heating only unit.
16	Status of other thermal source	Other thermal	On/Off	/
17	Status of the 2-way valve	2-way valve	On/Off	/
18	Status of antifreeze	HP-Antifree	On/Off	/
19	Status of the door guard	Gate-Ctrl.	Card in/Card out	/
20	Status of the 4-way valve	4-way valve	On/Off	/
21	Status of disinfection	Disinfection	Off/Running/Done/Fail	/
22	Status of the flow switch	Flow switch	On/Off	/

### 2.5.2 Parameter Viewing

[Operation Instructions]

1. At the "VIEW" page, by touching "Parameter", it is able to view each parameter of the unit, as shown in the figure below.



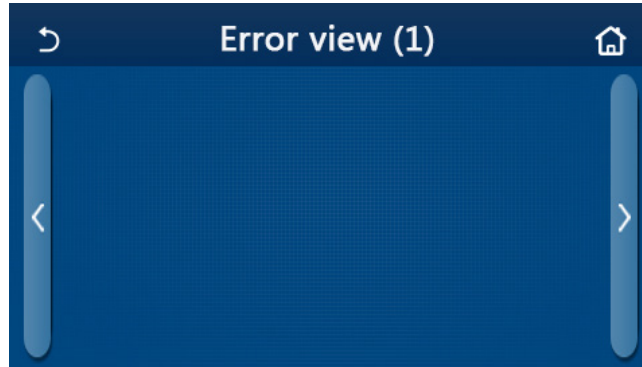
Parameter View Page  
Viewable Parameters

No.	Full Name	Displayed Name	Remarks
1	Environmental temperature	T-outdoor	/
2	Suction temperature	T-suction	/
3	Discharge temperature	T-discharge	/
4	Defrosting temperature	T-defrost	/
5	Entering water temperature of the plate type heat exchanger	T-water in PE	/
6	Leaving water temperature of the plate type heat exchanger	T-water out PE	/
7	Leaving water temperature of the auxiliary heater	T-optional water Sen.	/
8	Water tank temperature	T-tank ctrl.	/
9	Floor debug target temperature	T-floor debug	/
10	Floor debug runtime	Debug time	/
11	Liquid line temperature	T-liquid pipe	/
12	Vapor line temperature	T-gas pipe	/
13	Economizer inlet temperature	T-economizer in	/
14	Economizer outlet temperature	T-economizer out	/
15	Remote room temperature	T-remote room	"NA" for mini chillers
16	Discharge pressure	Dis. pressure	/
17	Weather-dependent target temperature	T-weather depend	/

### 2.5.3 Error Viewing

[Operation Instructions]

At the “VIEW” page, by touching “Error”, it is able to view errors of the unit, as shown in the figure below.



Error View Page

[Notes]

- The control panel can display real-time errors. And at these pages, all errors will be listed here.
- Each page displays at most 5 pieces of errors. Others can be viewed by touching the page turning keys.

#### Error List

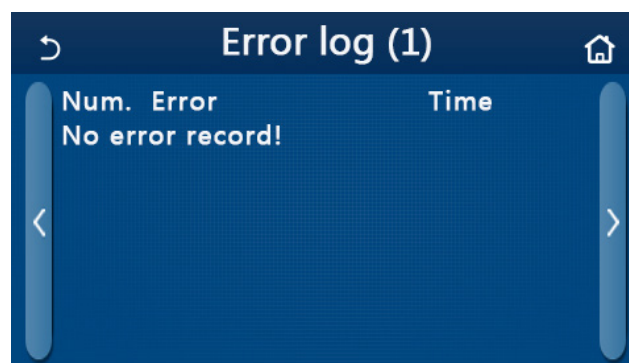
No	Full Name	Displayed Name	Code
1	Ambient temperature sensor error	Ambient sensor	F4
2	Defrosting temperature sensor error	Defrost sensor	d6
3	Discharge temperature sensor error	Discharge sensor	F7
4	Suction temperature sensor error	Suction sensor	F5
5	Economizer inlet temperature sensor	Econ. in sens.	F2
6	Economizer outlet temperature sensor	Econ. out sens.	F6
7	Fan error	Outdoor fan	EF
8	High pressure protection	High pressure	E1
9	Low pressure protection	Low pressure	E3
10	High discharge protection	Hi-discharge	E4
11	Capacity DIP switch error	Capacity DIP	c5
12	Communication error between the outdoor and indoor main boards	ODU-IDU Com.	E6
13	Communication error between the outdoor main board and the drive board	Drive-main com.	P6
14	Communication error between the display panel and indoor main board	IDU Com.	E6
15	High pressure sensor error	HI-pre. sens.	Fc
16	Leaving water temperature sensor error for the plate type heat exchanger of the heat pump	Temp-HELW	F9
17	Leaving water temperature sensor error for the auxiliary electric heat of the heat pump	Temp-AHLW	dH
18	Entering water temperature sensor error of the plate type heat exchanger of the heat pump	Temp-HEEW	No error code but displayed at the error view pages.
19	Water tank temperature sensor error	HI-pre. sens.	FE
20	Remote room temperature sensor error	T-Remote Air	F3
21	Protection for the flow switch of the heat pump	HP-Water Switch	Ec
22	Welding protection to the auxiliary electric heater 1 of the heat pump	Auxi. heater 1	EH
23	Welding protection to the auxiliary electric heater 2 of the heat pump	Auxi. heater 2	EH

24	Welding protection to the water tank electric heater	Auxi. -WTH	EH
25	DC bus under-voltage or voltage drop error	DC under-vol.	PL
26	DC bus over-voltage	DC over-vol.	PH
27	AC current protection (input side)	AC curr. pro.	PA
28	IPM defective	IPM defective	H5
29	PFC defective	PFC defective	Hc
30	Start failure	Start failure	Lc
31	Phase loss	Phase loss	Ld
32	Communication error with the drive board	Driver Com.	P6
33	Driver resetting	Driver reset	P0
34	Compressor overcurrent	Com. over-cur.	P5
35	Overspeed	Overspeed	LF
36	Current sensing circuit error or current sensor error	Current sen.	Pc
37	Desynchronization	Desynchronize	H7
38	Compressor stalling	Comp. stalling	LE
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	Ambient temperature sensor error at the drive board	Temp-driver	PF
44	AC contactor protection or input over-zero error	AC contactor	P9
45	Temperature drift protection	Temp. drift	PE
46	Sensor connection protection ( the current sensor fails to be connected with the corresponding phase U and or phase V)	Sensor con.	Pd
47	Communication error between the display panel and the outdoor unit	ODU Com.	E6
48	Refrigerant vapor line temperature sensor error	Temp RGL	F0
49	Refrigerant liquid line temperature sensor error	Temp RLL	F1

#### 2.5.4 Error Log

[Operation Instructions]

At the “VIEW” page, by touching “Error log”, the control panel will go to the error log page, where it is able to view error records.



[Notes]:

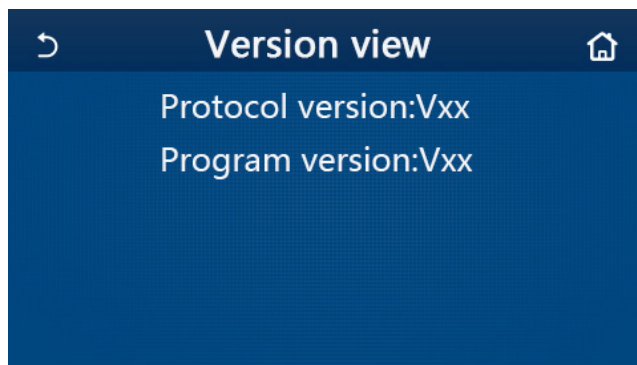
- The error log can accommodate up to 20 pieces of error. Name and occurrence time are available for each error.

- When error log exceeds 20, the latest will supersede the earliest.

### 2.5.4 Version Viewing

[Operation Instructions]

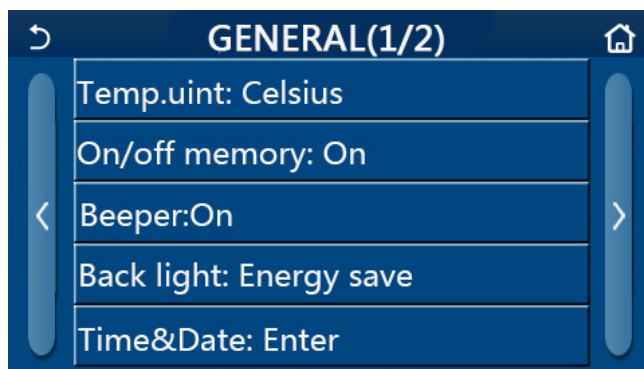
At the “VIEW” page, by touching “Version”, the control panel will go to the version view page, where it is able to view both the program version and protocol version.



### 2.6 General Setting

[Operation Instructions]

1. 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 “Temp.unit”, “On/off memory”, “Beeper”, “Back light”, “Time & Date” and “Language”.



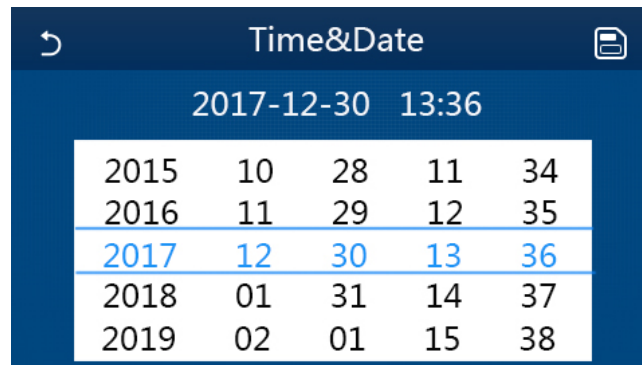
General Setting Page  
General Settings

No	Item	Range	Default	Remarks
1	Temp. unit	°C /°F	°C	/
2	On/Off memory	On/Off	On	/
3	Beeper	Enter	On	/
4	Back light	Lighted/Energy save	Energy save	“ <b>Lighted</b> ”: the control panel will always light on. “ <b>Energy save</b> ”: When there is no touching operation in 5 minutes, the control panel will be lighted off automatically, but will light on again once there is any touching operation.
5	Time&Data	Enter	/	/
6	Language	Italiano/English/El español/ Nederlands/Français/ Bulgarisch	English	/
7	WiFi	On/Off	On	/

### 2.6.1 Clock Setting

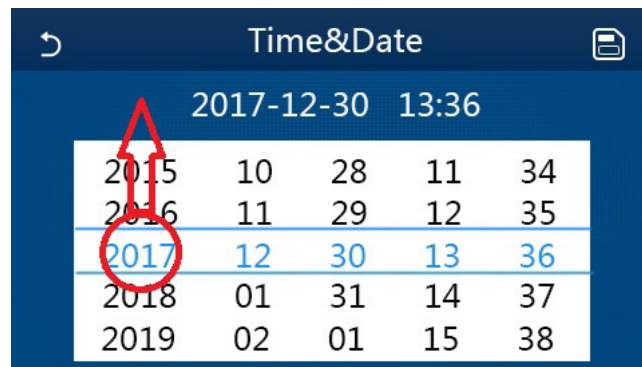
[Operation Instructions]

1. At the “GENERAL” setting page, by touching “Time&Data”, it will go to the setting page as shown in the figure below.



Time&Data Page

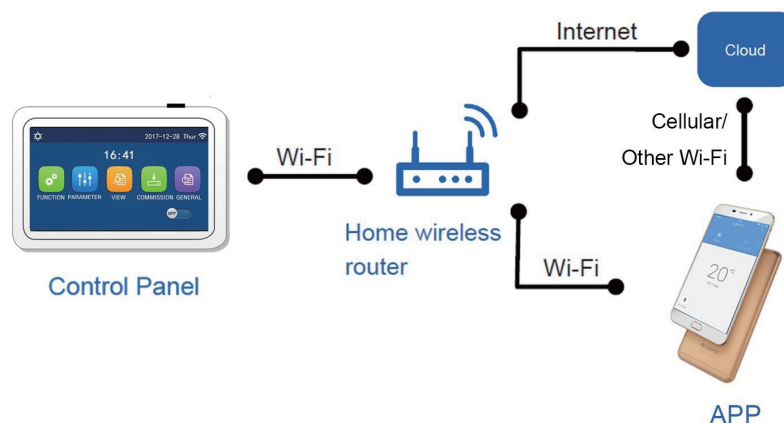
2. The mouse roller can change the date and time value. After it, by touching the “Save” icon, this setting will be saved and directly displayed; while by touching the “Back” icon, this setting will give up and the control panel will directly go back to the “GENERAL” setting page.



Time&Data Page

## 3. Intelligent Control

As shown in the figure below, remote control via a smart phone is available for the control panel.



[Notes]:

- Make sure the smart phone or tablet computer adopts standard Android or ios operation system. For detailed version, please refer to the APP.
- The Wi-Fi function doesn't support Chinese Wi-Fi network name.
- The devices can be connected and controlled only in Wi-Fi and 4G hotspot modes.
- Router with WEP encryption is not supported.

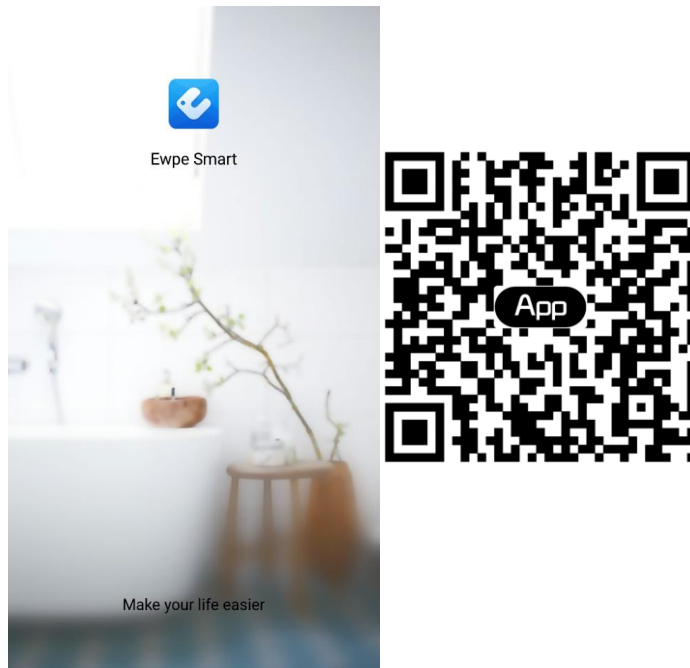


• Software operation interface is universal and its control functions may not be completely corresponding to the unit. Software operation interface may vary along with APP upgrading or different operation system. Please refer to the actual program.

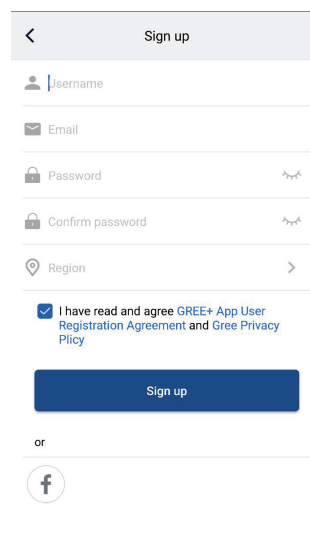
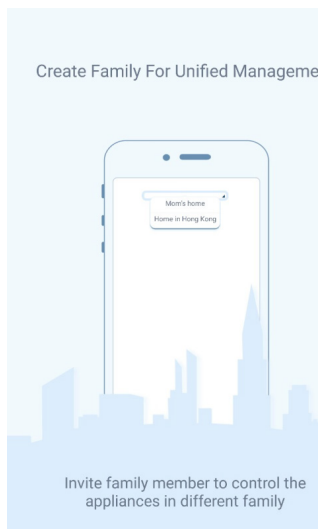
### 3.1 Install EWPE Smart APP

[Operation Instructions]

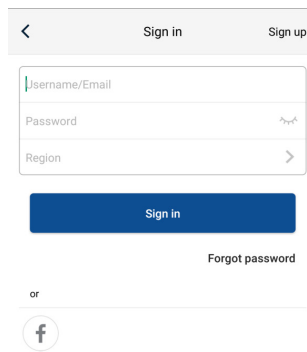
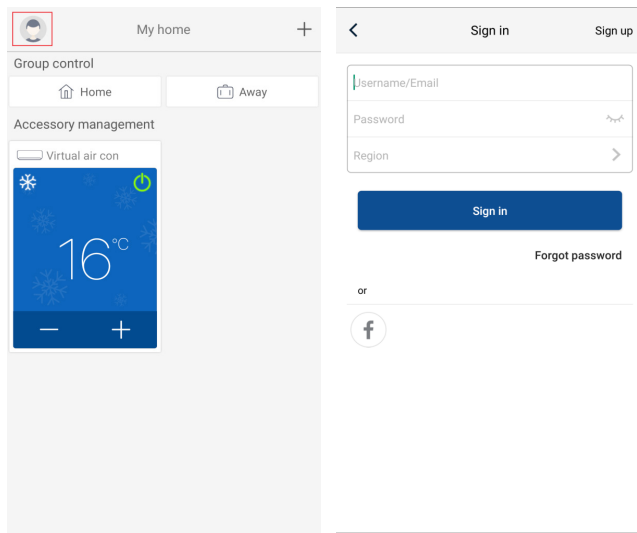
1. Scan the following QR code with your smart phone to download and install Ewpe Smart APP directly.



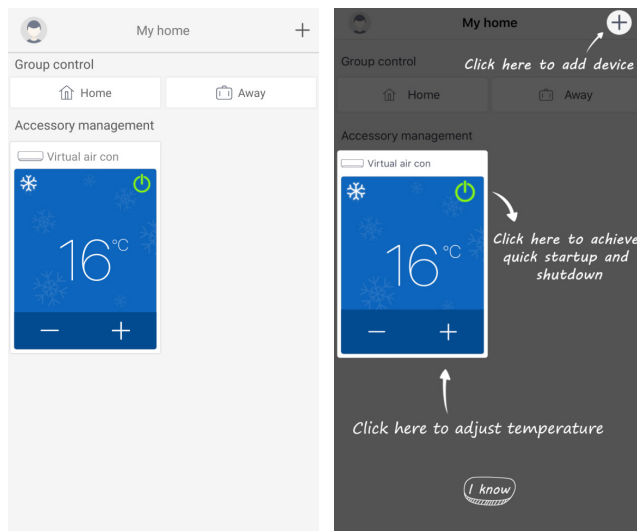
2. Open EWPE Smart and click "Sign up"

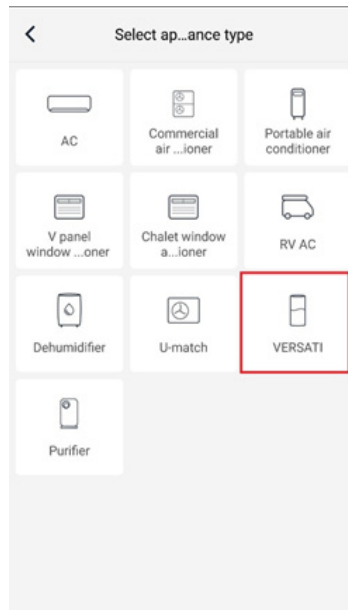


2. Except sign in in the prompt interface, you can also enter the homepage and click the profile picture at the left upper corner to sign in.

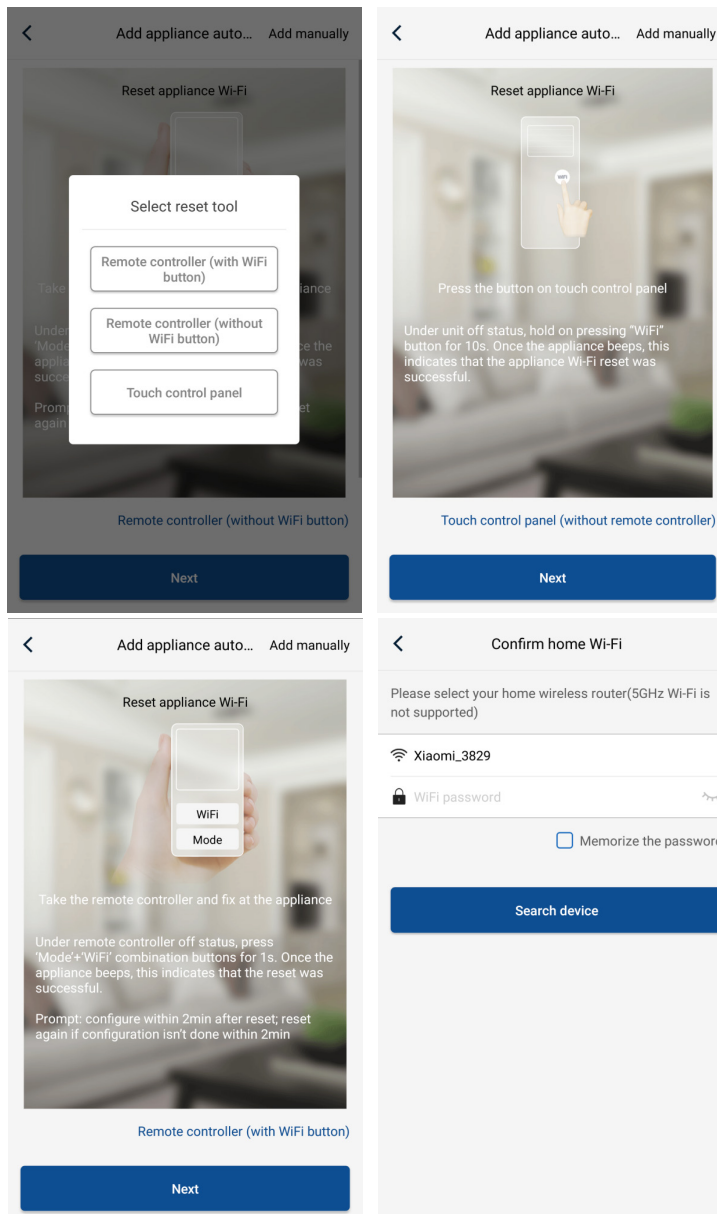


4. Click "+" at the right upper corner of homepage to add device.

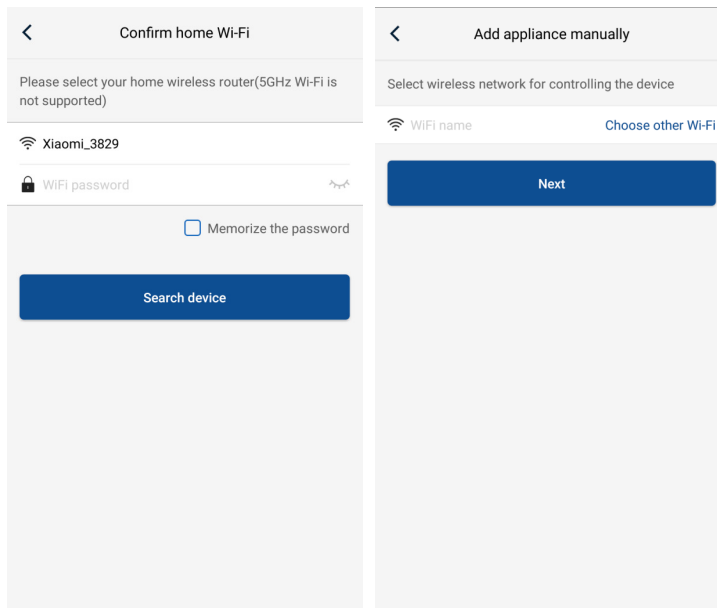




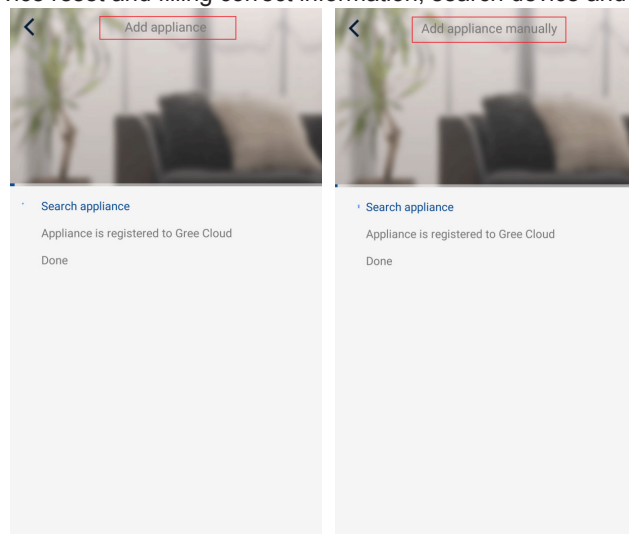
After selecting “**VERSATI**”, the APP interface will provide relevant operation instructions.

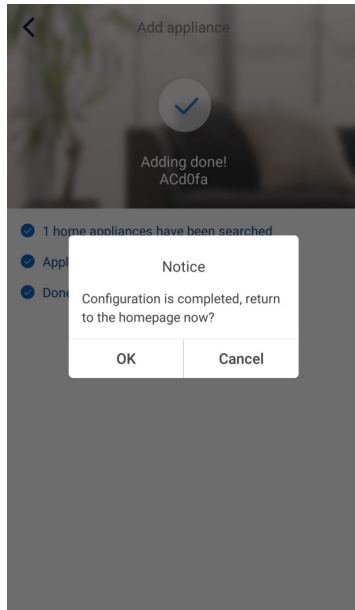


Reset the air conditioner (refer to the operation instructions in APP interface) and click **“Next”** to add home appliance automatically (Wi-Fi password shall be input). Or after setting and energizing the air conditioner, click **“Add appliance manually”** at the right upper corner to select the wireless network for controlling the device. Then confirm family Wi-Fi and arrange configuration.



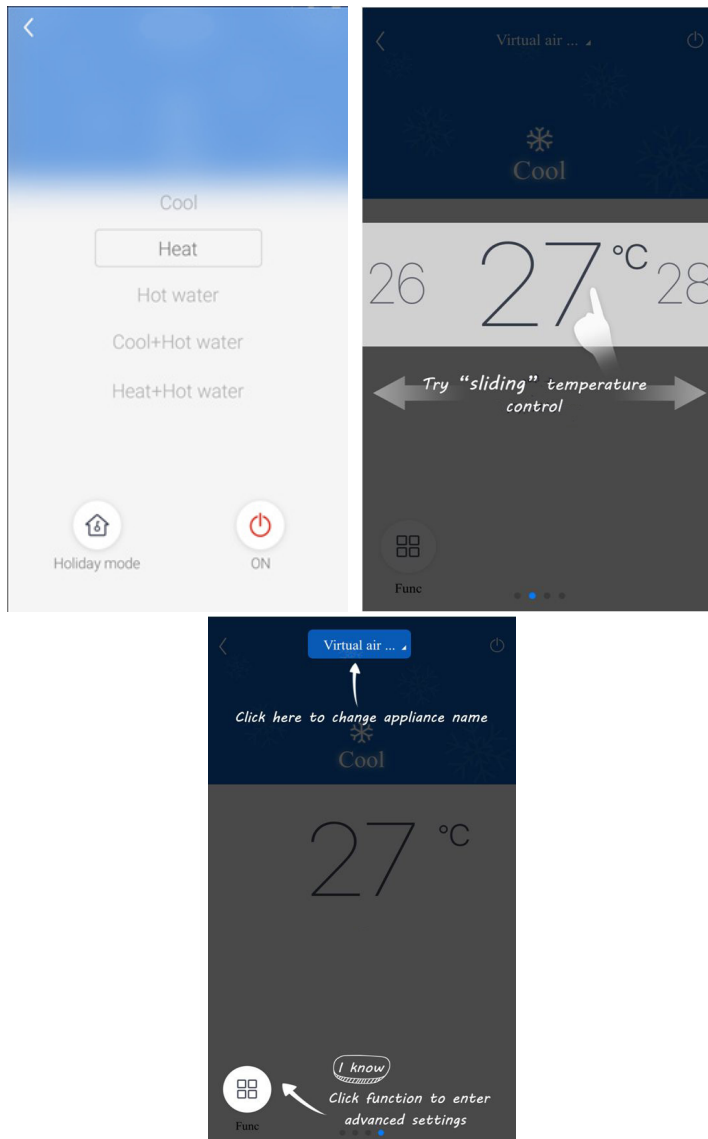
After accomplishing device reset and filling correct information, search device and arrange configuration.



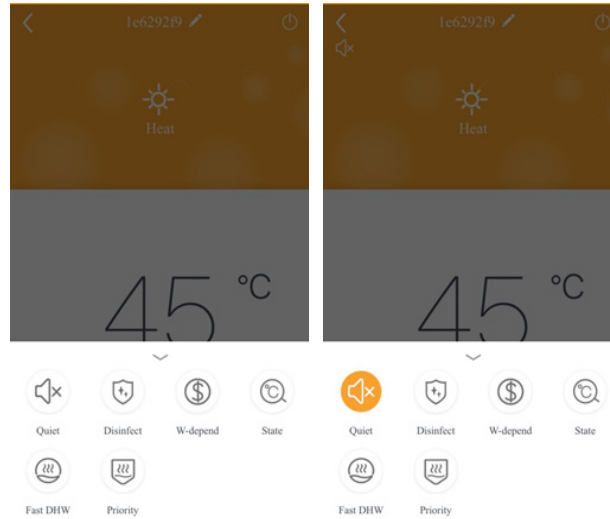


### 3.2 Setting of Main Functions

1. Set mode and temperature.

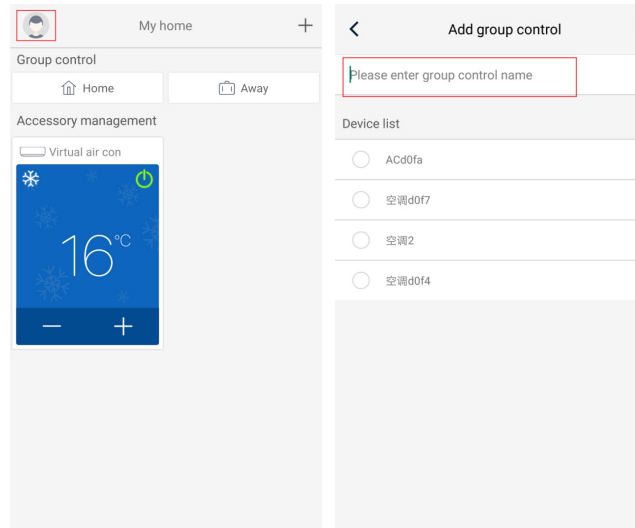


2. Click Func at the left lower corner in device operation interface to enter advanced settings.



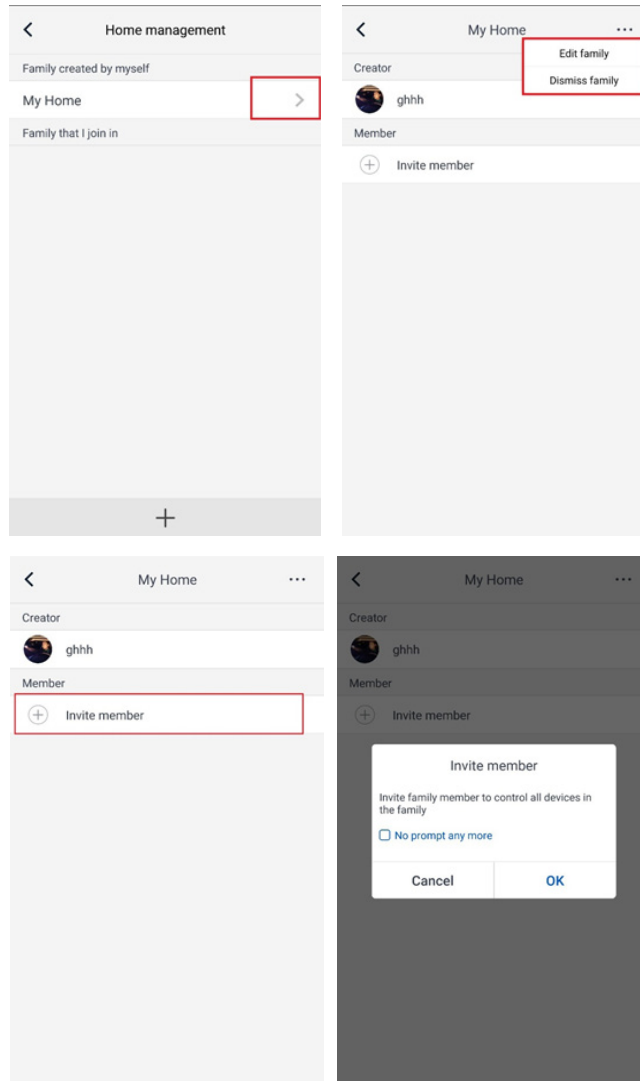
### 3.3 Setting of Other Functions

Click the profile picture at the left upper corner of homepage and set each function in the following menu.



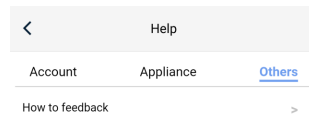
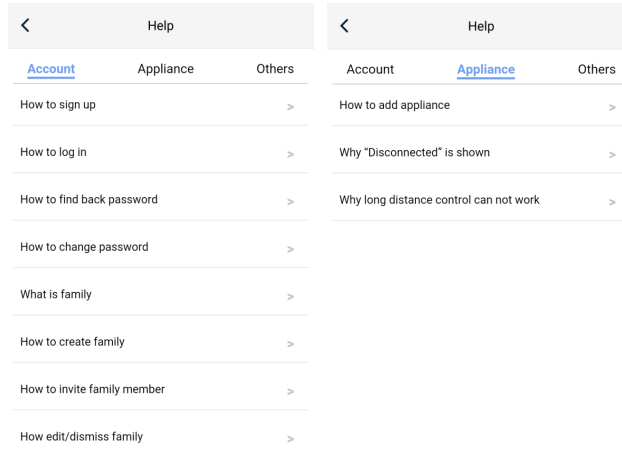
### 3.3.1 Home management

Click “**Home management**” to create or manage family. You can also add family members according to the registered account.



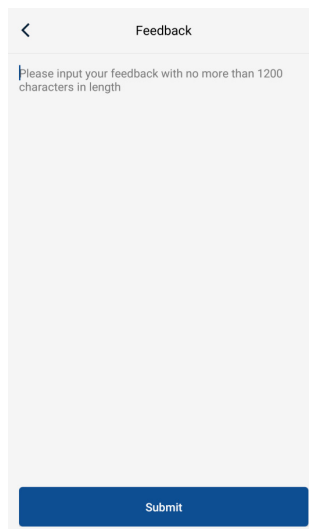
### 3.3.2 Help

Click "Help" and view the operation instructions of the APP.



### 3.3.3 Feedback

Click "Feedback" to submit feedback.





# NOTE CONCERNING PROTECTION OF ENVIRONMENT

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This product must not be disposed of via normal household waste after its service life, but must be taken to a collection station for the recycling of electrical and electronic devices. The symbol on the product, the operating instructions or the packaging indicate such disposal procedures. The materials are recyclable in accordance with their respective symbols. By means of re-use, material recycling or any other form of recycling old appliances you are making an important contribution to the protection of our environment. Please ask your local council where your nearest disposal station is located.

## INFORMATION CONCERNING USED REFRIGERANT MEDIUM

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This unit is containing fluorinated gases included in the Kyoto protocol. The maintenance and the liquidation must be carried out by qualified personnel.

Type of refrigerant: R32

The quantity of the refrigerant: please see the unit label.

The value GWP: 675 (1 kg R32 = 0,675 t CO<sub>2</sub> eq)

GWP = Global Warming Potential



Appliance filled with flammable gas R32.

In case of quality problem or other please contact your local supplier or authorized service center.

**Emergency number: 112**

## PRODUCER

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SINCLAIR CORPORATION Ltd.

1-4 Argyll St.

London W1F 7LD

Great Britain

[www.sinclair-world.com](http://www.sinclair-world.com)

This product was manufactured in China (Made in China).

## REPRESENTATIVE

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## TECHNICAL SUPPORT

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[info@sinclair-solutions.com](mailto:info@sinclair-solutions.com)

