OPERATION INSTRUCTIONS

for Air-to-water Heat Pump
Split ECO HOME

Thank you for choosing KAISAI heat pump. Please read
this Operation Instructions carefully before operation and
retain it for future reference. If you have lost the Operation
Instructions, please contact the local agent or visit
www.kaisai.com or send an email to handlowy@kaisai.com

KAISAI EUROPE

Notices

Thank you for selecting KAISAI 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.

(4) The final right to interpret for this instruction manual belongs to Gree Electric Appliances Inc. of Zhuhai.

Contents

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. External View
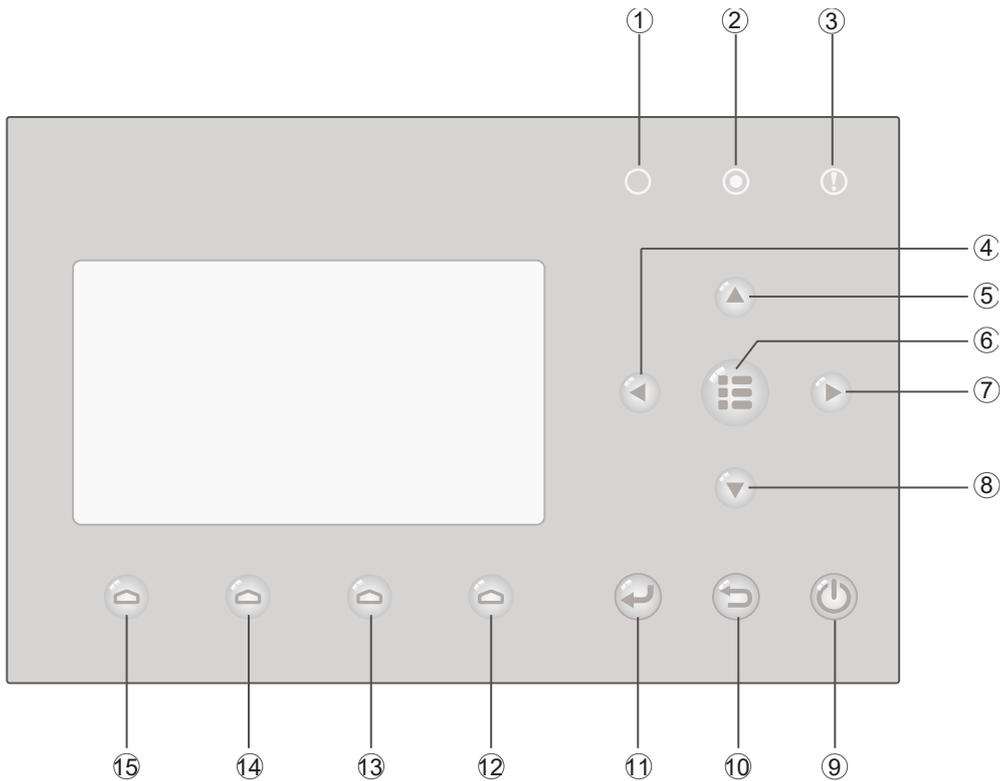
(This effect drawing is just for reference)

1.1 Keys & Indicating LEDs

No.	Symbol	Name	Functional Description
①	Running indicating LED (green)		It will light on/off when the unit is turned on/off.
②	Power indicating LED (yellow)		It will light on/off when the unit is powered on/off.
③	Error indicating LED (red)		It will light on when some fault occurs.
④	Left key		It is intended to move the cursor left.
⑤	Up key		It is intended to modify the setting state or value of the selected parameter.
⑥	Menu key		It is intended to call out the main menu or back to the homepage.
⑦	Right key		It is intended to move the cursor right.
⑧	Down key		It is intended to modify the setting state or value of the selected parameter.
⑨	ON/OFF key		It is intended to turn on or off the unit.
⑩	Cancel/Return key		It is intended to go to the higher level menu.
⑪	OK key		It is intended to save the setting or go to the submenu.

⑫		Function key no. 4	
⑬		Function key no. 3	It is intended to perform different functions at difference pages.
⑭		Function key no. 2	
⑮		Function key no. 1	

[Note]
The key icon is just for reference and the real object always prevails.

1.2 Standby Page and Homepage

Standby Page

8:30	2013/4/24	Wednesday

Mode	Auxiliary func.	Error state
Off	No	Yes

T-water out	T-outdoor	Key lock
40℃	20℃	No

Home Page

8:30	2013/4/24	Wednesday

Mode	Auxiliary func.	Error state
Off	No	Yes

T-water out	T-outdoor	Key lock
40℃	20℃	No

✖ FUNC.	▋PARA.	✚VIEW	⬡ GEN.

| No.	Item	Functional Description
1*	Mode	It is intended to access to the actual running mode.
2	Auxiliary Func.	It indicates the auxiliary function.
3	Error state	It indicates if there is any error.
4	T-water out	It indicates the actual leaving water temperature.
5	T-outdoor	It indicates the actual outdoor environment temperature.
6	Key lock	It indicates if the key lock is activated or deactivated.
7	FUNC.	It is intended to access to the function setting page.
8	PARA.	It is intended to access to the parameter setting page.
9	VIEW	It is intended to access to the view page.
10	GEN.	It is intended to access to the general setting page.

[Note]

"1*": it includes the "**Sanitize mode**", "**Quiet**" mode, "**Auto**" mode, "**Floor debug**" mode, "**Emergen.mode**", "**Holiday mode**", "**Forced Cooling**" mode, "**Forced Heating**" mode, and "**Debug**" mode.

2. Operation Instructions

2.1 On/Off

It is intended to turn on/off the unit.
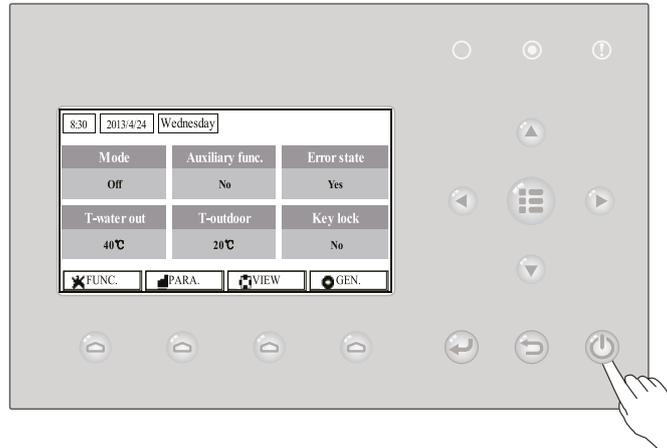
[Operation Instructions]

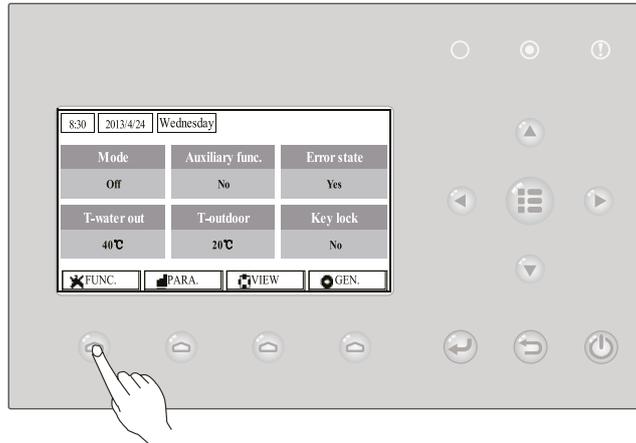At the homepage, by pressing the ON/OFF key ⏻, the unit will be turned on/off.

When the unit is ON, the green indicating LED ◯ located at the upper right of the control will light on. When the unit is OFF, the green indicating LED ◯ will light off. (◯ is just for reference.)

[Notes]

(a) The unit is defaulted to be OFF when energized for the first time.

(b) The ON/OFF key operation works only at the home page and the standby page.

(c) When the "**Holiday mode**" or the "**Emergen.mode**" is activated, the ON/OFF key ⏻ operation will become ineffective.

(d) When the "**Forced Heating**" or "**Forced Cooling**" is activated, it will be deactivated by pressing the "ON/OFF" key ⏻ , and then press the ON/OFF key ⏻ again to start the unit.

(e) ON/OFF operation will be memorized by setting "**Memory**" to be "**On**" at the "**GEN.**" 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.

(f) At the home page, the ON/OFF key ⏻ is intended to turn on/off the unit if applicable. The Function keys no.1 to no.4 are corresponding to "**FUNC.**", "**PAPA**", "**VIEW**" and "**GEN.**" setting pages respectively.

(g) At the standby page, the Menu key ☰ is used to back to the homepage, the ON/OFF key ⏻ is used to turn on/off the unit if applicable, and all other key operations are ineffective.

(h) The control will return automatically to the homepage where there is no any key operation in 10 consecutive minutes.
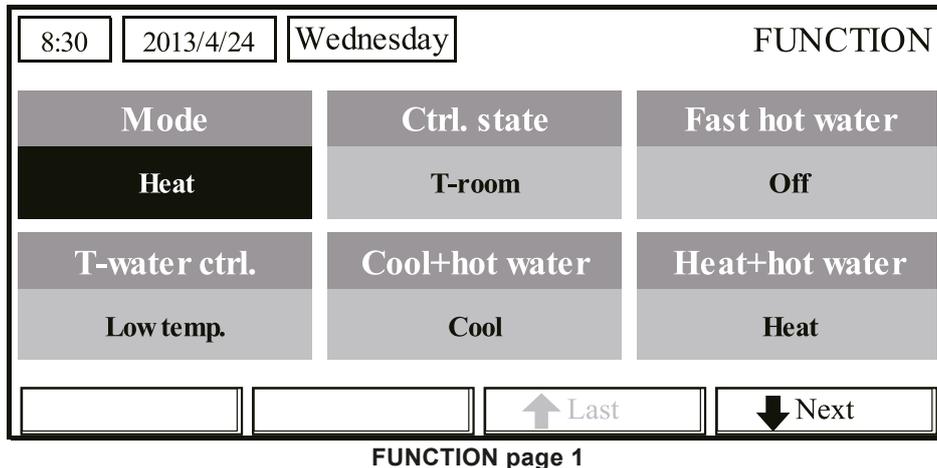
2.2 Function Setting

It enables the user to set each function.

[Operation Instructions]

(1) At the homepage, by pressing the Function key no. 1 (🏠), the control will access to the **FUNCTION** page 1, as shown in the figure below.

FUNCTION page 1

(2) At the **FUNCTION** page, by the Right/Left key (◀) (▶), the desired function option can be selected, and by the Up/Down key (▲) (▼), the setting of the current function option can be modified. The function key no. 3 (🏠) or no. 4 (🏠) can be used for switch pages. After the setting is finished, by pressing the Menu key (☰), the control will back to the homepage, or by pressing the Return key (↩) the control will back to the higher level menu.

[Notes]

(a) Move the cursor to the desired option and "Enter" will be displayed at the lower left side of the LCD, reminding you that you are allowed to access to the submenu by pressing the OK key (↵).

(b) At the **FUNCTION** page, when the setting of some function option is changed and needs to be memorized, then in case of power failure it will be saved automatically and resume upon power recovery.

Function Settings

No.	Full Name	Displayed Name	Range	Default	Remarks
1	Running mode setting	Mode	Cool Heat Hot water Cool+Hot water Heat+Hot water	Heat	When the water tank is unavailable, then only "Cool" and "Heat" are included in the range.
2	Control state	Ctrl. state	T-water out / T-room	T-water out	"T-Room" is available only when "Remote Sensor" is set to "WITH".
3	Fast hot water	Fast hot water	On/Off	Off	When the water tank is unavailable, this function will be reserved, and the LCD will display 'Reserved'.
4	Water out temperature control	T-water ctrl.	High temp./ Normal temp.	Normal temp.	1. When "Floor config" is set to "With", the function is defaulted to be "Normal temp." and cannot be unadjustable 2. When "Floor config" is set to "Without", this function is adjustable.
5	Cool+hot water	Cool+hot water	Cool/Hot water	Cool	When the water tank is unavailable, this function will be reserved, and the LCD will display 'Reserved'.
6	Heat+hot water	Heat+hot water	Heat/Hot water	Heat	When the water tank is unavailable, this function will be reserved, and the LCD will display 'Reserved'.
7	Quiet mode	Quiet mode	On/Off	Off	/
8	Quiet timer	Quiet timer	On/Off	Off	/
9	Weather-dependent mode	Weatherdepend	On/Off	Off	/
10	Holiday release	Holiday release	On/Off	Off	/
11	Disinfection	Disinfection	On/Off	Off	When the water tank is unavailable, this function will be reserved, and the LCD will display 'Reserved'.
12	Weekly timer	Weekly timer	On/Off	Off	/
13	Clock timer	Clock timer	On/Off	Off	/
14	Temperature timer	Temp. timer	On/Off	Off	/
15	Solar kit	Solar kit	On/Off/Timer	Off	When the water tank is unavailable, this setting will be reserved. If it is set to "On", the solar kit will function no matter if the timer is activated or not; if it is set to "Off", the solar heating function is unavailable; if it is set to "Timer", the solar kit can function when the timer has been activated.
16	Floor debug	Floor debug	On/Off	Off	/
17	Emergency mode	Emergen. mode	On/Off	Off	/
18	Holiday mode	Holiday mode	On/Off	Off	/

19	Thermostat	Thermostat	Air/Without/ Air+hot water	Without	This setting cannot be changed from "Air" to "Air+hot water" directly but via "Without" this option and the unit will go to Without status. Meanwhile, the control will send out "Without" command for consecutive 40 seconds (it is longer than the communication error, and the "On" command can be performed only when 40 seconds have been expired. When it set to "Air+hot water", "hot water" can be performed even though the thermostat is off.
20	Assistant heater	Assis. Heater	1/2/Off	Off	/
21	Other heater	Other heater	With/Without	Without	/
22	Chassis heater	Chassis heater	On/Off	On	/
23	Tank heater running	Tank heater	On/Off	Off	When the water tank is available, this setting is adjustable; when it is unavailable, it will be reserved. When it is set to be "Off" and the solar kit is available, the water tank temperature will be adjustable; when the solar kit is unavailable, the upper limit of the water tank temperature should be set to 50 .
24	Solar kit- antifreeze	Solar antifre	On/Off	Off	
25	Water tank	Water tank	With/Without	Without	/
26	Tank sensor	Tank sensor	1/2	2	When the water tank is unavailable, this function will be reserved. and the LCD will display 'Reserved'.
27	Solar heater	Solar heater	With/Without	Without	/
28	Floor config	Floor config	With/Without	With	Under the heating mode, if it is set to "With", the setting value is defaulted to be the normal water temperature and cannot be adjusted; if it is set to "Without", the setting value can be changed freely. Under the cooling mode, if it is set to "With", the leaving water temperature range will be 18-25 and 18 is the default. When it is set to "Without", the leaving water temperature range will be 7-25 and 7 is the default. This setting is unavailable when the unit is stopped.
29	Remote sensor	Remote sensor	With/Without	Without	When it is set to "Without", the "Control state" will be automatically changed to "T-water out".
30	Air removal	Air removal	On/Off	Off	/
31	Address	Address	[1~125] [127~253]	1	/
32	Gate-Controller	Gate-Ctrl.	On/Off	Off	/

2.2.1 Mode

It enables the user to select the run mode of the unit. When the water tank is not prepared, then only **Cool** and **Heat** modes are available. When the water tank has been prepared and **Water Tank** is set to "**With**" through the wired controller (see Section 2.2.26 for more details), then **Cool**, **Heat**, **Hot water**, **Heat + hot water**, and **Cool + hot water** modes are available. In this case, **Heat + hot water** or Cool + hot water can be given priority. (see Section 2.2.5 and 2.2.6 for more details), which is the default setting before delivery.

[Operation Instructions]

At the equipment OFF state, access to the **FUNCTION** page and then move through the Left/Right key ◀

▶ the cursor to the "**Mode**" whose characters will be reversed, then press the Up/Down key ▲ ▼ to modify its setting.

[Notes]

(a) The "**Heat**" mode is defaulted when the unit is energized for the first time.

(b) The running mode is allowed to be changed only when the unit is not in operation. If it is done with the unit being on, a window will pop up, warning "**Please turn off the system first**".

(c) When the water tank is disabled, only the '**Heat**" or the "**Cool**" mode is allowed.

(d) When the water tank is enabled, "**Cool**", "**Heat**", "**Hot water**", "**Cool+hot waterr**", "**Heat+hot water**" is allowed.

(e) For the heat pump, the "**Cool**" mode is allowed; for the heating only unit, "**Cool+ Hot water**" and "**Cool**" are unallowable.

(f) This setting can be memorized upon power failure.

2.2.2 Control State (Ctrl. state)

It enables the user to configure the control state to leaving water temperature or room temperature.

[Operation Instructions]

Go to the **FUNCTION** page and locate **Ctrl. state**, then, configure it through the Up/Down key ▲ ▼ .

[Notes]

(a) If "**Remote sensor**" is set to "**With**", "**T-out water**" and "**T-room**" are available. While if "**Remote Sensor**" is set to "**Without**", only "**T-out water**" is selectable.

(b) This setting will be memorized upon power failure.

2.2.3 Fast Hot Water

When hot water is needed urgently, this function can be configured to be "On", In this case, the heat pump and the water tank heater will work together to generate sanitary hot water in a quickest way.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Fast hot water**", then, configure it through the Up/Down key ▲

▼ , "**On**" or "**Off**".

[Notes]

(a) It works only when "**Water tank**" is set to "**With**".

(b) This setting will be memorized upon power failure.

2.2.4 T-water Ctrl (Water Temperature Control for Heating)

When "Floor config" is set to "With" (see 2.2.28), then the leaving water temperature control is defaulted to be "Normal temp"and cannot be changed. When "Floor config" is set to "Without" (see 2.2.28), the leaving water temperature can be configured to either "High temp" or "Normal temp".

[Notes]

This unit can connect with the underfloor coil, FCU and radiator. When FCU is used for cooling, "**Floor config**" should be manually set to "**Without**" for getting lower leaving water temperature. When the radiator is used for

heating, "**Floor config**" also should be manually set to "**Without**" for getting higher leaving water temperature.

[Operation Instructions]

After "**Floor config**" is set to "**Without**" (see 2.2.28), go to the FUNCTION page and locate "**T-water ctrl**.", then, configure it through the Up/Down key ▲ ▼ , "**High temp.**" or "**Low temp.**".

[Notes]

(a) When this setting is changed, the following parameters will return to the default values.

Full Name	Displayed Name	Default
Water out temperature for cooling	WOT-Cool	7°C/45°F[Low] 18°C/64.8°F[Normal]
Water out temperature for heating	WOT-Heat	45°C/113°F[High] 35°C/95°F[Normal]
Upper limit water-out temperature at the weather-dependent mode for heating	Upper WT-Heat	48°C/118°F[High] 35°C/95°F[Normal]
Lower limit water-out temperature at the weather-dependent mode for heating	Lower WT-Heat	40°C/104°F[High] 29°C/84°F[Normal]

(b) This setting will be memorized upon power failure.

2.2.5 Cool + Hot water

This compound mode enables the user to give priority to the "**Cool**" or "**Hot water**" mode depending on the actual demand.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Cool+hot water**", then, configure it through the Up/Down key ▲

▼ , "**Cool**" or "**Hot water**".

[Notes]

(a) "**Hot water**" will take precedence only when "**Water tank**" is available, other it will tell "**Reserved**".

(b) This setting will be memorized upon power failure.

2.2.6 Heat + Hot water

This compound mode enables the user to give priority to the "**Heat**" or "**Hot water**" mode depending on the actual demand.

[Operation Instructions]

Go to the **FUNCTION** page and locate **Heat+hot water**, then, configure it through the Up/Down key ▲

▼ , "**Heat**" or "**Hot water**".

[Notes]

(a) "**Hot water**" will take precedence only when "**Water tank**" is available, other it will tell "**Reserved**".

(b) This setting will be memorized upon power failure.

2.2.7 Quiet

This function can be activated when the running noise is too high.

[Note]

when this function is activated, frequency of both the compressor and the fan will go down and also the capacity of the unit will correspondingly decrease.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Quiet**", then, configure it through the Up/Down key ▲ ▼ , "**On**" or "**Off**".

[Notes]

(a) It can be set to "**On**" or "**Off**" no matter if the unit is in operation or not.

(b) Once it is activated, it should be deactivated manually or by **Quiet Timer**.

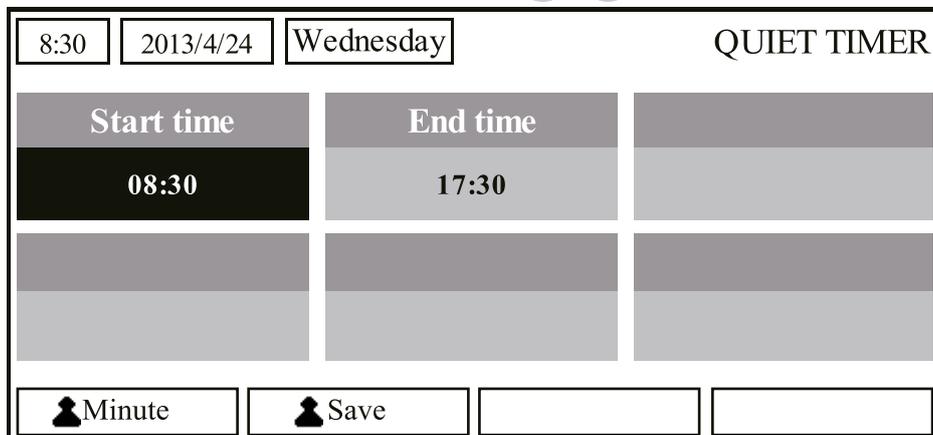(c) This setting will be memorized upon power failure.

(d) It will be deactivated when the unit is turned off.

2.2.8 Quiet Timer

When running noise is too high at some specific timer period, this function enables the unit run quietly at this time period.

[Operation Instructions]

(1) Go to the **FUNCTION** page and locate **Quiet timer**, then, access to the **QUIET TIMER** setting page.

(2) At the **QUIET TIMER** setting page, select "**Start time**" or "**End time**" through the Left/Right keys ◀ ▶ and then configure the desired time through the Up/Down keys ▲ ▼ .

(3) When the mode setting is finished, then by pressing "Save", a pop-up window will pop up to remind if you are determined to save this setting. If so, press the "OK" key ↵ . If not, press the "Cancel" key ↩ to not save this setting.

(4) When the setting is saved, the control then will back to the **FUNCTION** page and the cursor will be where the "**Quiet timer**" option is, then by the Up/Down key ▲ ▼ , it can be set to be "**On**" or "**Off**".

8:30	2013/4/24	Wednesday		QUIET TIMER
Start time		**End time**		
08:30		**17:30**		
♟Minute		♟Save		

[Notes]

(a) Once it is activated, it should be deactivated manually.

(b) This setting will be memorized upon power failure.

(c) The saved "**Start time**" and "**End time**" will be memorized upon power failure.

(d) It is configurable no matter if the unit is in operation or not.

2.2.9 Weather-dependent Mode

For areas with large change of diurnal temperature, in order to avoid the user to set the leaving water temperature or room temperature too often, this function will adjust automatically depending on the environmental temperature.

[Operation Instructions]

Go to the **FUNCTION** page and locate **Weatherdepend**, then, configure it through the Up/Down key ▲ ▼ , "**On**" or "**Off**". See section **2.3.2** for more details.

[Notes]

(a) Once it is activated, it should be deactivated manually.

(b) This setting will be memorized upon power failure.

(c) At the "**Parameter View**" page, it is able to check the set point at the Weather-dependent Mode.

(d) When it is activated, it is allowed to set pump room temperature but the set point does not take effective. However, when it is deactivated, the unit will run according to this set point.

(e) It can be set to "**On**" or "**Off**" no matter if the unit is in operation or not, but be activated only when the unit is in operation.

(f) This mode works only for the heating/cooling function.

2.2.10 Holiday Release

In summer or high-temperature season, this function will make the unit pause to run in some specific periods when the user is out.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Holiday release**", then, configure it through the Up/Down key ▲ ▼, "**On**" or "**Off**".

[Notes]

(a) When it is activated, at the **WEEKLY TIMER** page, it is able to set some week day to "**Holiday release**". In this case, the "**Weekly timer**" in this day is ineffective unless it is set to "**Effective**" manually.

(b) This setting will be memorized upon power failure.

2.2.11 Disinfection

This function is intended to sanitize the water tank by raising the water temperature to 70°C under which the legionella will die immediately. When this function is activated, the sanitation data and start time is configurable.

[Operation Instructions]

(1) At the **FUNCTION** page, locate "**Disinfection**", and then access to the **DISINFECTION** setting page by pressing the OK key ↵ .

(2) At the **DISINFECTION** setting page, select "**Set clock**", "**Set week**" or "**Set temp**" through the Left/Right key ◄ ► and then modify the corresponding setting through the Up/Down key ▲ ▼ .

(3) When the mode setting is finished, then by pressing "**Save**", a pop-up window will pop up to remind if you are determined to save this setting. If so, press the OK key ↵ . If not, press the Cancel key ↩ to not save this setting.

(4) When the setting is saved, the control then will back to the **FUNCTION** page and the cursor will be where the "**Disinfection**" is, then by the Up/Down key ▲ ▼ , it can be set to "**On**" or "**Off**".

Name	Name	Default	Range
Disinfection temperature	Set temp.	70°C	45°C~70°C

8:30	2013/4/24	Wednesday	DISINFECTION
Set clock		**Set week**	**Set temp.**
08:30		**Monday**	**70℃**
👤 Minute		👤 Save		

[Notes]

(a) It can be activated only when the "**Water tank**" is set to "**With**".

(b) It can be set to "**On**" or "**Off**" no matter if the unit is in operation or not

(c) When "**Disinfection**" is set to "On", if you intend to set the "**Emergen. mode**", "**Holiday mode**", "**Floor Debug**", then a window will pop up, warning "**Please disable the Disinfection Mode!**".

(d) It can be set to "**On**" or "**Off**" no matter if the unit is in operation or not, and "**Hot water**" mode always takes

precedence.

(e) When Sanitize is activated, "**Disinfection**" will show on the home page of the control until this operation is finished. If this operation fails, "**Disinfect fail**" will show. In this case, by pressing any key, "**Disinfect fail**" will be cleared or it will be always there.
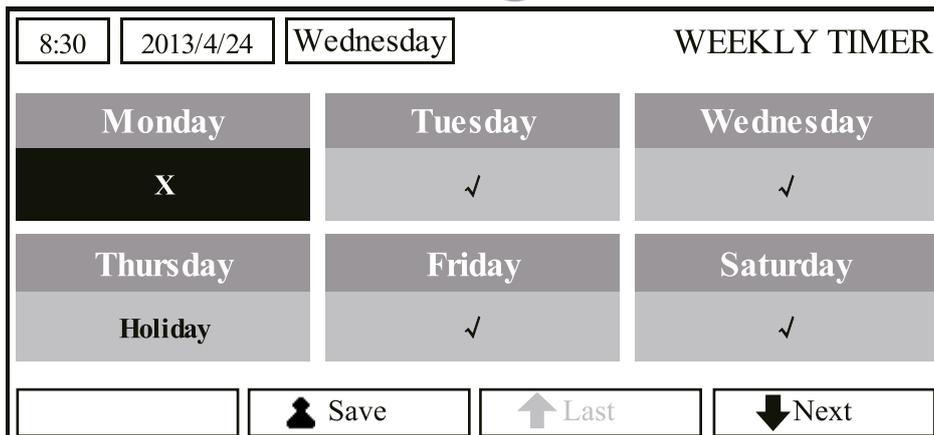
(f) When Sanitize is activated, it will quit upon "**Communication error with the indoor unit**" or "**Water tank heater error**".
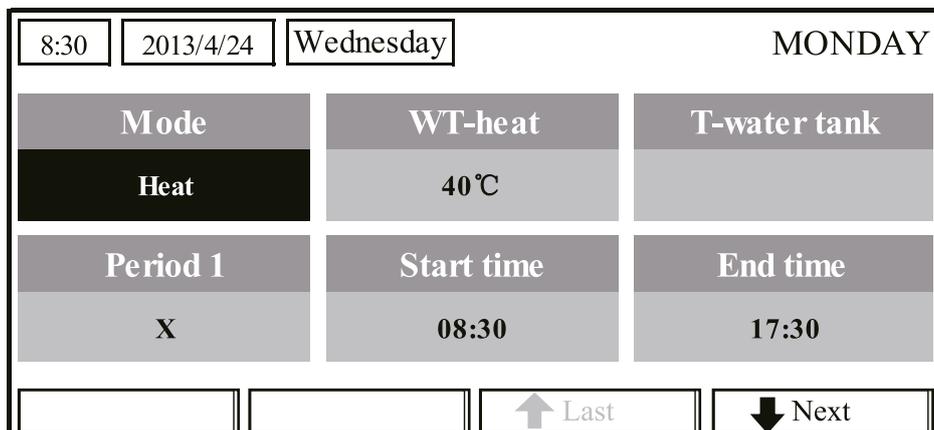
2.2.12 Weekly Timer

This function will make the unit run with certain modes in certain periods within a week based on the user's actual demand.

[Operation Instructions]

(1) At the homepage, by pressing the Function key 🏠 access to the **FUNCTION** page, and then locate where "**Weekly timer**" is by switching pages, after that, press OK key ↵ to go to the **WEEKLY TIMER** setting page.

(2) At the **WEEKLY TIMER** setting page, by the Right/Left key ◀ ▶ it is able to select the desired week day and then by the Up/Down key ▲ ▼ to set this day, "√", "×" or "Holiday", as shown in the figure below. When this setting is finished, press OK key ↵ to go to this day's setting page.

8:30	2013/4/24	Wednesday		WEEKLY TIMER
Monday		**Tuesday**		**Wednesday**
X		√		√
Thursday		**Friday**		**Saturday**
Holiday		√		√
	👤 Save		⬆ Last	⬇ Next

(3) At the week day's setting page, it is allowed to set the running mode (Mode), temperature set point (WT-HEAT), and water tank temperature (T-Water Tank). The running mode includes "**Heat**", "**Cool**", "**Hot water**", "**Heat+ hot water**", "**Cool+ hot water**" (the last three ones are available only when "Water tank" is set to "With". There are totally five periods for each day, and each period can be set to "√"or "×". Besides, it is able to set the "**Start time**" and "**End time**" for each period, as shown in the figure below.

8:30	2013/4/24	Wednesday		MONDAY
Mode		**WT-heat**		**T-water tank**
Heat		40℃		
Period 1		**Start time**		**End time**
X		08:30		17:30
			⬆ Last	⬇ Next

8:30	2013/4/24	Wednesday	MONDAY
Period 2	**Start time**	**End time**	
X	**08:30**	**17:30**	
Period 3	**Start time**	**End time**	
X	**08:30**	**17:30**	
		⬆ Last	⬇ Next

8:30	2013/4/24	Wednesday	MONDAY
Period 4	**Start time**	**End time**	
X	**08:30**	**17:30**	
Period 5	**Start time**	**End time**	
X	**08:30**	**17:30**	
		⬆ Last	⬇ Next

(4) When above settings are finished, pressing the Return key and then pressing "**Save**", a pop-up window will pop up to remind if you are determined to save these settings. If so, press the OK key ⟲ . If not, press the Return key ⟲ to not save these settings.

(5) In this case, finally by pressing the Up key ▲ , "**Weekly timer**" will be activated.

[Notes]

(a) Totally five periods are allowed to be set for each time. For each period, "**Start time**" must be earlier than "**End time**". Similarly, the preceding period must be earlier than its following period.

(b) When "**Weekly timer**" has been set successfully, by changing "**Floor config**", "**Water tank**", "**Ctrl state**", or "**T-water ctrl**", then the temperature set point for "**Weekly timer**" will be automatically changed to the set point of last setting. For instance, if "**Heat**" is set for Monday of "**Weekly timer**", "**Floor config**" is set to "**With**" and the "**WOT-Heat**" is set 35°C in **Weekly timer** , by resetting "**Floor config**" to "**Without**", then "**WOT-Heat**" will be the value of last seting. In this case, if "**Floor config**" is set to "**Without**" for last setting, then "**WOT-Heat**" will be changed to the default value (45°C) automatically. When **Weekly timer** is activated, "**WOT-Heat**" only can be changed in **Weekly timer** but not in section **2.3 Parameter Setting**.

(c) At the "**WEEKLY TIMER**" setting page there are totally three setting types for each day

"√": it indicates once the Week Timer is activated, the timer on this day is effective and will not be affected by the "**Holiday**" mode.

"×": it indicates even if the Week Timer is activated, the timer on this day is ineffective.

"**Holiday**": it indicates when the Week Timer is activated but "**Holiday**" is not activated, then the timer on this day is effective; when "Holiday" is also activated, the timer on this day is ineffective.

(d) When "**Weekly timer**" has already been set and the concerned modes include "**Hot water**", if resetting

"**Water tank**" from "**With**" to "**Without**", then "**Hot water**" mode will be automatically changed to "**Heat**", "**Cool+hot water**"/ "**Heat+hot water**" changed to "**Cool**"/ "**Heat**".

(e) Temperature Setpoint

The control is able to decide the temperature type and temperature range based on the current "**Clock Timer**", "**Floor config**", "**T-water Ctrl.**", and "**Ctrl. state**" settings. See the followings for more details.

If the set mode is "**Hot water**", the temperature set point shows nothing, indicating there is no need to set "**T-water out**" and "**T-room**" but only "**T- water tank**". If the set mode "**Cool**" or "**Heat**", then water tank temperature box will show nothing, indicating there is no need to set "**T-water tank**".
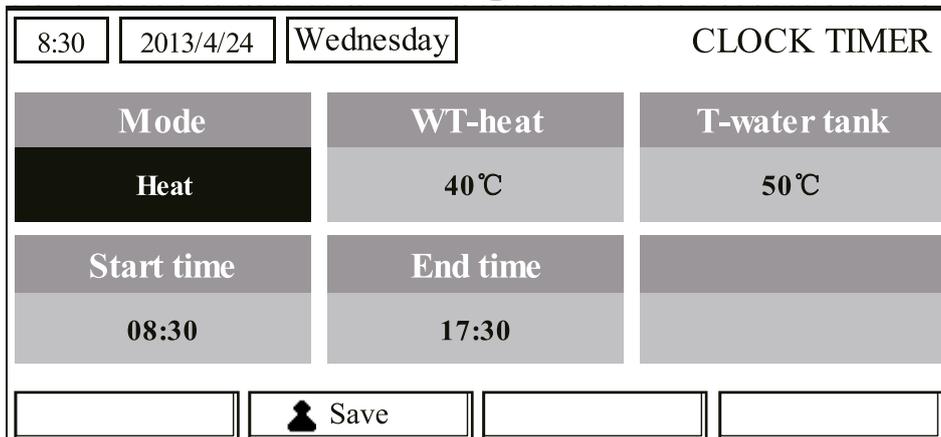
Ctrl. state	Set Mode	Object	Range		Default	Accuracy
T-water out	Cool	Water out temperature for cooling(WT-cool)	7-25°C (Without underfloor coil)	18-25°C (With underfloor coil)	7°C (Without underfloor coil) 18°C (With underfloor coil)	1°C
	Heat	Water out temperature for heating(WT-heat)	High temp.	25-55°C	45°C	1°C
			Low temp.	25-45°C	35°C	1°C
T-room	Cool	Room temperature for cooling(RT-cool)	18-30°C		24°C	1°C
	Heat	Room temperature for heating(RT-heat)	18-30°C		20°C	1°C

2.2.13 Clock Timer

This function will make the unit run with certain modes in certain periods within a day based on the user's actual demand.

[Operation Instructions]

(1) At the homepage, by pressing the Function key 🏠 access to the **FUNCTION** page, and then locate where "**Clock timer**" is, after that, press OK key ↵ to go to the **COLCK TIMER** setting page.

8:30	2013/4/24	Wednesday	CLOCK TIMER

Mode	**WT-heat**	**T-water tank**
Heat	40℃	50℃

Start time	**End time**	
08:30	17:30	

	👤 Save		

(2) At the **CLOCK TIMER** setting page, by the Left/Right key ◀ ▶ select the desired parameter and then by the Up/Down key ▲ ▼ configure it.

(3) When this setting is concerned about time value, by pressing the Function key no. 1 🏠 alternately set the hour or minute values, and by pressing the Up/Down key ▲ ▼ increase or decrease the corresponding value which will be continuously changed by pressing and holding the key. (Unless otherwise

specified, all timer settings follow the similar way.)

(4) When the setting is finished, save it by pressing the Function key no. 2 ⬡, or this setting without being saved is ineffective.

(5) When the setting has been saved, activate the "**Clock Timer**" at the **FUNCTION** page.

[Notes]

(a) When "**Weekly timer**" and "**Clock timer**" settings are performed at the same time, the latter takes precedence.

(b) When the water tank is available, the allowed running modes include "**Heat**", "**Cool**", "**Heat+ hot water**", "**Cool+hot water**", and "**Hot water**".

(c) When the water tank is unavailable, the allowed running modes only include "**Heat**" and "**Cool**".

(d) When "**Clock timer**" has already been set and the concerned modes include "**Hot water**", if resetting "**Water tank**" from "**With**" to "**Without**", then "**Hot water**" mode will be automatically changed to "**Heat**", "**Cool+hot water**"/ "**Heat+hot water**" changed to "**Cool**"/ "**Heat**".

2.2.14 Temp. Timer

This function will make the unit run with certain temperature in a certain period within a day based on the user's actual demand.

[Operation Instructions]

(1) At the homepage, by pressing the Function key ⬡ access to the **FUNCTION** page, and then locate where "**Temp timer**" is, after that, press OK key ↵ to go to the **TEMP TIMER** setting page.

8:30	2013/4/24	Wednesday		TEMP TIMER
Mode		**Period 1**		**WT-heat 1**
Heat		08:30		40℃
Period 2		**WT-heat 2**		
08:30		40℃		
	▲ Save			

(2) At the **TEMP TIMER** setting page, by the Left/Right key ◀ ▶ select the desired parameter and then by the Up/Down key ▲ ▼ configure it. The configurable parameters include "**Mode**", "**Period 1**", "**WT-HEAT 1**", "**Period 2**" and "**WT-HEAT 2**".

(3) When the setting is finished, save it by pressing the Function key no. 2 ⬡, or this setting without being saved is ineffective.

(4) When the setting has been saved, activate the "**Temp. timer**" at the **FUNCTION** page.

[Notes]

(a) When "**Weekly timer**", "**Clock timer**", and "**Temp. timer**" settings are performed at the same time, the last one takes precedence.

(b) This function works only when the unit is in operation.

(c) The allowed running modes include "**Heat**" and "**Cool**"

(d) When the start time of "**Period 2**" is equal to that of "**Period 1**", then the set point of "**Period 2**" takes precedence.

(e) **TEMP. TIMER** is judged by the timer value.

(f) During the setting, the temperature set point which is set manually always takes precedence.

2.2.15 Solar kit

When the solar system is prepared (water tank and solar heater both are set to "with"), this function will decide which period to let the solar system to run. However, if the solar system will run virtually depends on the temperature difference between the solar panel and the water tank.

[Operation Instructions]

(1) After setting water tank and sloar heater, go to the FUNCTION page and locate "**Solar Kit**", and then press the ▼ or ▲ key it can be set to "**On**", "**Off**", or "**Timer**". "**On**" means to activate the solar kit when it satisfies startup conditions all the time; "**Off**" means to deactivate the solar kit; and "**Timer**" means to activate the solar kit when it satisfies startup conditions during the timing period. After that, pressing "**Enter**" at the lower left corner will go to the "**Solar Kit**" setting page, as shown below.

8:30	2013/4/24	Wednesday			SOLAR TIMER

Sart time	End time	
08:30	**17:30**	

👤 Minute	👤 Save		
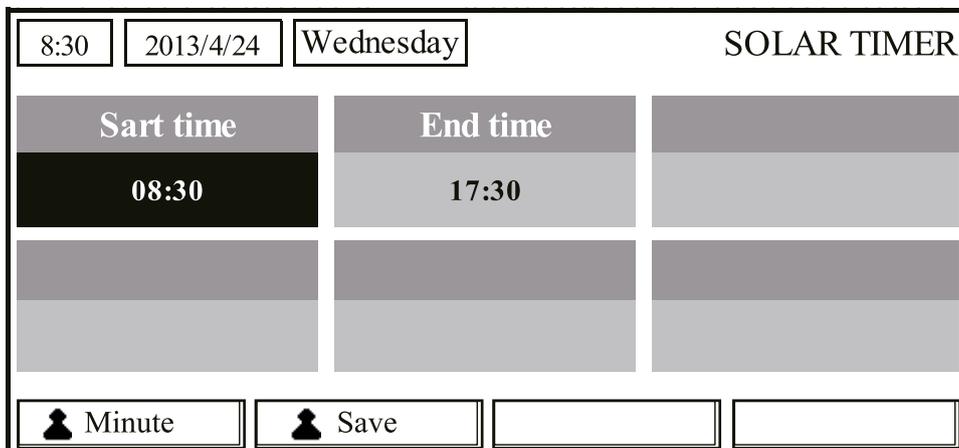
No.	Full Name	Displayed Name	Range	Default
1	Solar kit start time	Start time	0:00~23:59	8:00
2	Solar kit stop time	End time	0:00~23:59	18:00

(2) At the "**Solar Ki**t" setting page, press the up or down key ▲ ▼ to locate "**Start time**" or "**End time**" and then adjust them through the up and down keys.

(3) Then, press "**Save**" and then a dialog xo will pop up. In the dialog box, press "**OK**" ↵ to confirm this setting, or press "**Cancel**" ↩ to cancel this setting.

(4) After that, this page will automatically back to the **FUNCTION** page with the cursor stayed at "**Solar Kit**" and then through the up and down keys to set it to be "**On**" to time the solar time.

[Notes]

(a) Once the solar timer is timed; it cannot be canceled through ON/OFF operation but be done manually.

(b) "**Start time**" and "**End time**" will be memorized upon power failure

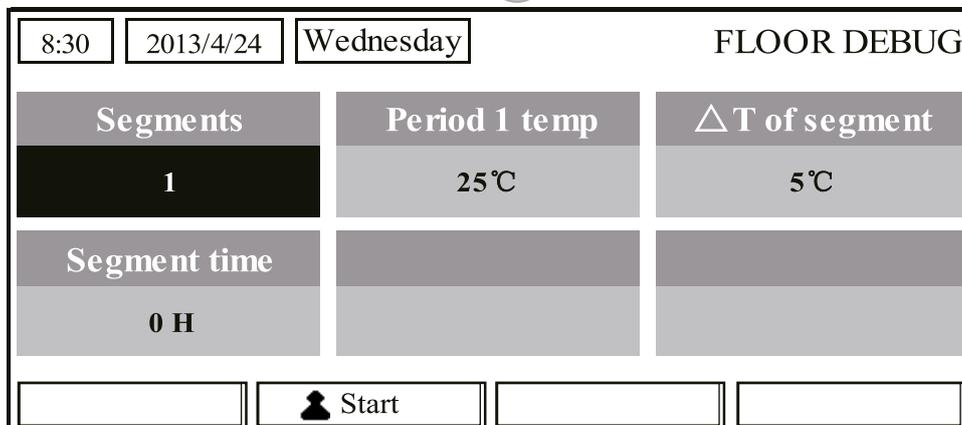(c) It can be set under both ON and OFF states

2.2.16 Floor Debug

This function will make the unit to perform periodic preheating to the floor for the initial run once floor coils have

been installed.

[Operation Instructions]

(1) At the homepage, by pressing the Function key access to the **FUNCTION** page, and then locate where "**Floor debug**" is, after that, press OK key to go to the **FLOOR DEBUG** setting page.

8:30	2013/4/24	Wednesday	FLOOR DEBUG
Segments	**Period 1 temp**	**△T of segment**	
1	**25℃**	**5℃**	
Segment time			
0 H			
	♟ Start		

(2) At the **FLOOR DEBUG** setting page, by the Left/Right key select the desired parameter and then by the Up/Down key configure it. The configurable parameters include "**Segments**", "**Period 1 temp**", "**ΔT of segment**", and "**Segment time**", as listed in the following table.

| No.	Full Name	Displayed Name	Range	Default	Accuracy
1	Segments for floor debug	Segments	1~10	1	1
2	First temperature for floor debug	Period 1 temp	25~35°C/77~95°F	25°C/77°F	1°C/1°F
3	Segment temperature difference for floor debug	ΔT of segment	0~72H	0	12H
4	Segments duration for floor debug	Segment time	2~10°C/36~50°F	5°C/41°F	1°C/1°F

3. After the above setting is finished, by pressing the function key no.2 activate this function and a dialog box will pop up, reminding "**Start the Floor Debug Mode now?**". If so, press the "OK" key . Once "**Floor debug**" has been activated, by pressing the function key no.2 , a dialog box also will pop up, reminding "**Stop the Floor Debug Mode now?**" If so, press the OK key ; if not, press "**Cancel**" to go on.

[Notes]

(a) This function can be activated only when the unit is OFF. When it is intended to activate this function with the unit being ON, a dialog box will pop up, warning "**Please turn off the system first!**".

(b) When this function has been activated, it is unable to turn on or off the unit. In this case, when pressing the ON/OFF key , a dialog will pop up, warning "**Please disable the Floor Debug Mode!**".

(c) When this function has been set successfully, "**Timer week**", "**Clock timer**" and "**Temp timer**" will be deactivated.

(d) "When "**Floor debug**" mode has been activated, "**Emergen.mode**", "**Sanitize**", "**Holiday mode**" is not allowed to be activated, or a dialog box will pop up, warning "**Please disable the Floor Debug Mode!**".

(e) Upon power failure, this function will be OFF and runtime will be cleared.

(f) At the **FlOOR DEBUG** setting page, the control will remain at this page and never back to the homepage unless pressing the Return key or Menu key .

(g) When this function is activated, it is allowed to check the target temperature and runtime of "Floor Debug" at the Parameter View page.

(h) Before activating "**Floor debug**", please make sure each period for "**Floor debug**" is not zero, or a dialog box will pop up, warning "**Wrong Floor Debug time!**". It will resume only by pressing "OK" and then correcting the time.

Floor Debug
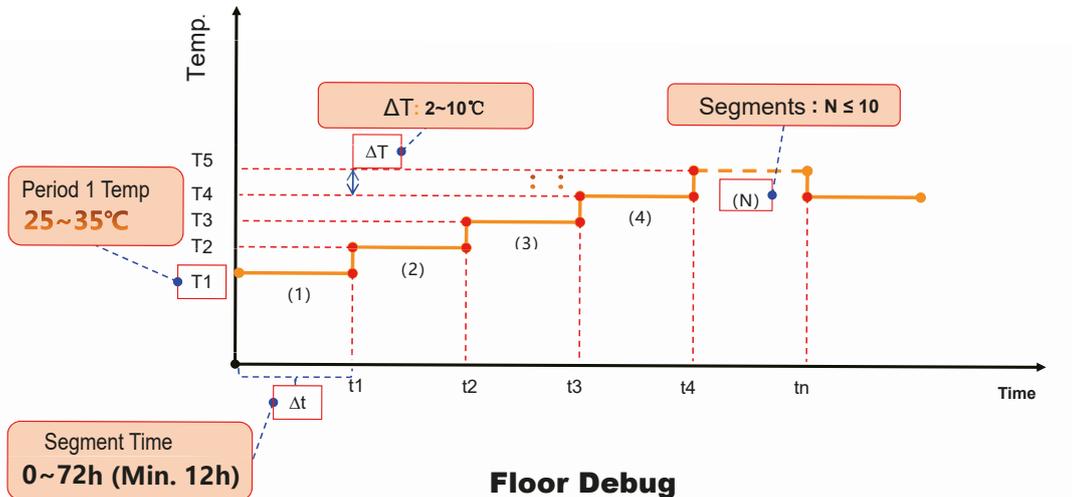
2.2.17 Emergency Mode (Emergen. Mode)

When the compressor fails to run owing to some urgent condition, this function will allow the unit to run in the "Heat" or "Hot water" mode through the auxiliary heater and the water tank heater.

[Operation Instructions]

(1) Set "**Mode**" to "**Heat**" or "**Hot water**" at the Parameter Set page

(2) Then, switch pages to go the page where "**Emergen. mode**", locate it by the Left/Right key ◀ ▶, and configure it to "**On**" or "**Off**" by the Up/Down key ▲ ▼.

(3) When it is set to "**On**", "**Auxiliary func.**" at the homepage will be replaced by "**Emergen. Mode**".

(4) When it is set to "**On**" but the running mode is not "**Heat**" or "**Hot water**", a dialog will pop up, warning "**Wrong running mode!**". In this case, by pressing the OK key ↵ , the control will go to the Mode setting page, or by pressing the Cancel key ↩ , the control will return to the "**Emergen. Mode**" page.

[Notes]

(a) When the unit is performing "**Heat**" at the Emergency mode, if there is water flow switch protection, IDU assistant heater welding protection, or leaving water temperature sensor error, the Emergency mode will quit and will not be allowed to be activated.

(b) When the unit is performing "**Hot water**" at the Emergency mode, if there is water tank heater welding protection, or water tank temperature sensor error, the Emergency mode will quit and will not be allowed to be activated.

(c) At the Emergency mode, the ON/OFF key ⏻ operation will be disabled; the running mode will not be allowed to be changed; the Quiet Mode and Weather-dependent Mode cannot be deactivated; "**Weekly timer**", "**Clock timer**" and "**Temp timer**" also cannot be activated, or will be deactivated if being activated.

(d) At the Emergency mode, commands from the Thermostat is ineffective.

(e) At the Emergency mode, only one running mode between "**Heat**" and "**Hot water**" is allowed.

(f) This function can be activated only when the unit is OFF, or a dialog box will pop up, warning "**Please turn off the system first!**"

(g) Under the Emergency mode, "**Floor debug**", "**Sanitize**", "**Holiday mode**", cannot be activated, or a dialog

box will pop up, warning " **Please disable the Emergency Mode!**".

(h) Upon power failure, the "**Emergen. mode**" will be defaulted to be "**Off**".

2.2.18 Holiday Mode

In winter or low-temperature season, this function will control the leaving water temperature or room temperature within a certain range to avoid the water system from being frozen when the user is out on holiday for a long time.

[Operation Instructions]

(1) Locate where "**Holiday mode**" at the **Parameter Set** page

(2) Set Holiday to "**On**" or "**Off**" by the Up/Down key.

[Notes]

(a) At the holiday mode, "**Mode**" setting of the control and On/Off key operation both are disabled.

(b) When it is activated, "**Weekly timer**", "**Clock timer**" or "**Temp timer**" will be deactivated.

(c) At the holiday mode, when "**T-Room**" is adopted, the temperature set point should be 10℃; when "**T-Out water**" is adopted, then the temperature set point should be 30℃.

(d) When this setting is saved successfully, it will be memorized upon power failure.

(e) This function can be activated only at the "**Heat**" mode and with the unit turned off. When it is done with the unit turned on, a prompt dialog box will pop up, warning "**Please turn off the system first!**"; or when it is done at other modes except the "**Heat**" Mode with the unit turned off, also a prompt dialog box will pop up, warning "**Wrong running mode!**".

(f) Settings of "**Thermostat**" and "**Holiday Mode**" cannot come into effect simultaneously.

(g) Under the Holiday mode, "**Floor debug**", "**Sanitize**", "**Emergen. mode**" cannot be activated, or a dialog box will pop up, warning "**Please disable the Holiday Mode !**".

2.2.19 Thermostat

When the thermostat has been installed, it can be used to control the run mode of the unit (only "Heat"or "Cool"mode)

[Operation Instructions]

(1) Locate where "**Thermostat**" is at the **FUNCTION** page

(2) By pressing the Up/Down key, Thermostat can be set to "**Air**","**Without**" or "**AIR+Hot water**". When it is "**Air**", the control follows the running mode of the thermostat and is not allowed to set the running mode; when it is "**Without**", the control follows the running mode set by itself.

[Notes]

(a) When the water tank is unavailable, the "**Air+hot water**"mode also is unavailable.

(b) When "**Floor debug**" or "**Emergen. Mode**" is activated, then the control will not receive signals from the thermostat.

(c) If "**Thermostat**" is set to "**Air**", the control will automatically disable some functions concerning timer, and run in accordance with the mode set by the thermostat. In this case, the running mode is unchangeable and the ON/OFF key operation of the control is ineffective.

(d) When this setting is saved successfully, it will be memorized upon power failure.

(e) Under the "**Air+hot water**" mode, the unit can perform water heating even though the thermostat is set to "**Off**".The priority can be set in **Cool+hot water** and **Heat+hot water**.

(f) The state of the Thermostat can be changed when the unit is turned off.

2.2.20 Assistant Heater (Assis. Heater)

There are three options for the assistant heater, " 1 group", "2 groups" or "Without".

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Assistant heater**", then, configure it through the Up/Down key

to "1" or "2" or "Off".

[Notes]
It will be memorized upon power failure.

2.2.21 Other Heater

It can be configured to "With" or "Without" through the wired controller.

[Operation Instructions]

Go to the **FUNCTION** page and locate **Other heater**, then, configure it through the Up/Down key ▲ ▼,
"**With**" or "**Without**".

[Notes]
It will be memorized upon power failure.

2.2.22 Chassis Heater

The user will decide if to activate or deactivate the chassis heater. Generally it is suggested to activate it under low environment temperature, "**Heat**" mode or "**Hot water**" mode to prevent the chassis from being frozen.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Chassis Heater**" then, configure it through the Up/Down key ▲
▼, "**On**" or "**Off**".

[Notes]
It will be memorized upon power failure.

2.2.23 Tank heater

When the water tank is installed, it is suggested to activate it. In this case, the water tank will go to the standby status and will start after the control program has made this decision based on the actual demand and the environment temperature.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Tank heater**" then, configure it through the Up/Down key ▲ ▼, "**On**"
or "**Off**".

[Notes]
It will be memorized upon power failure.

2.2.24 Solar antifre

This **function** is for solar system freezing protection. It can be activated or deactivated by the user. Generally it is suggested to activate it.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Solar antifre**" then, configure it through the Up/Down key ▲ ▼,
"**On**" or "**Off**".

[Notes]
It will be memorized upon power failure.

2.2.25 Water Tank

It can be configured to be "**With**" or "**Without**" based on the actual condition.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Water tank**" then, configure it through the Up/Down key ▲ ▼,
"**With**" or "**Without**".

[Notes]
(a) It will be memorized upon power failure.

(b) This setting is allowed only when the unit is turned off.

2.2.26 Tank Sensor

When the water tank has been installed, one group or two groups of tank sensors can be selected to detect and control the water tank temperature.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Water tank**", then, configure it through the Up/Down key , "**1**" or "**2**". When the water tank is unavailable, this option will be reserved.

[Notes]
It will be memorized upon power failure.

2.2.27 Solar Heater

It can be configured to be "**With**" or "**Without**" based on the actual condition.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Solar heater**", then, configure it through the Up/Down key , "**With**" or "**Without**".

[Notes]
It will be memorized upon power failure.

2.2.28 Floor config

It can be configured to be "**With**" or "**Without**" based on the actual condition.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Floor config**", then, configure it through the Up/Down key , "**With**" or "**Without**".

[Notes]
(a) It will be memorized upon power failure.
(b) Under the heating mode, when it is set to "**With**", the setting value is defaulted to be the normal water temperature and cannot be changed; when it is set to "**Without**", the setting value can be changed freely. Under the cooling mode, when it is set to "**With**", the leaving water temperature range is 18-25 and the default is 18 ; when it is set to "**Without**", the range is 7-25 , the default is 7 .
(c) "**Floor config**" can be changed only when the unit is turned off.
(d) This unit can connect with the underfloor coil, FCU and radiator. When FCU is used for cooling, "**Floor config**" should be manually set to "**Without**" for getting lower leaving water temperature. When the radiator is used for heating, "**Floor config**" also should be manually set to "**Without**" for getting higher leaving water temperature.

2.2.29 Remote Sensor

It can be configured to be "**With**" or "**Without**" based on the actual condition.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Remote sensor**", then, configure it through the Up/Down key , "**With**" or "**Without**".

[Notes]
(a) It will be memorized upon power failure.
(b) "**T-room ctrl**" can be selected only when the **Remote Sensor** is set to "**With**".

2.2.30 Air removal

This function is intended to expel air inside the water system with only the water pump in operation when installation of the unit is finished.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Air removal**", then, configure it through the Up/Down key ▲ ▼ , "**On**" or "**Off**".

[Notes]

    (a) It will not be memorized upon power failure.

    (b) It can be set only when the unit is turned off.

2.2.31 Address

It is used to identify the unit in use in the central control system.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Address**", then, configure it through the Up/Down key ▲ ▼ to set the address.

[Notes]

    (a) It indicates the address of the control and is intended for the group control.

    (b) It will not be memorized upon power failure.

    (c) The address range is [0,125] and [127,253]

    (d) The default address is 1 for the initial use.

2.2.32 Gate-Controller(Gate-Ctrl.)

It can be configured to be "**On**" or "**Off**" based on the actual condition.

[Operation Instructions]

Go to the **FUNCTION** page and locate "**Gate-Controller**", then, configure it through the Up/Down key ▲

▼ , "**On**" or "**Off**".

[Notes]

    (a) When it is activated, the control will check the card is inserted or not. If inserted, the control will run normally; if not, the control will turn off the unit and back to the homepage. In this case, any key operation is ineffective (except for the combined key operation), or a dialogue box will pop up, warning"**Keycard uninserted!**".

    (b) It will not be memorized upon power failure.

2.3 Parameter Setting (Parameter Set)

2.3.1 User Parameter Setting

At the parameter setting pages, each parameter is configurable, like: water out temperature for cooling, water out temperature for heating, and water tank temperature etc.
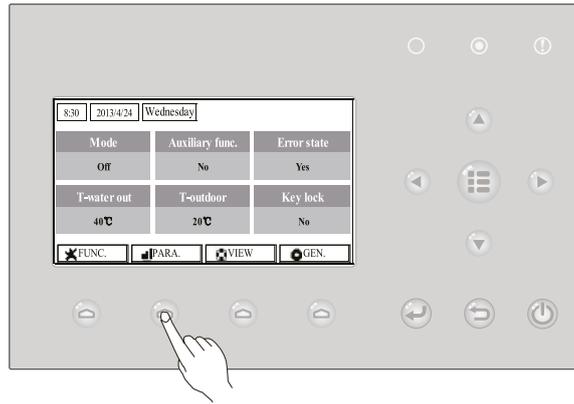
[Operation Instructions]

(1) At the homepage, it is able to go to the **PARAMETER** page by pressing the Function key no.2 ⬠ .

(2) At the **Parameter Set** page, by the Left/Right key ◀ ▶ select the desired option and then by the Up/Down key ▲ ▼ increase or decrease the setting value which will be continuously changed when pressing and holding the key.

(3) When the setting is finished, press "**Save**" ⬠ and a dialog box will pop up, reminding "**Save settings?**". If so, press the OK key ↵ ; if not press the Cancel key ↩ to not save this setting.

[Notes]

(a) For those parameter which default value vary by different condition, the value will set to default when the condition changes.

WOT-Cool	WOT-heat	RT-Cool
18℃	40℃	20℃
RT-Heat	**T-water tank**	**T-Eheater**
26℃	50℃	0℃

| 👤 Save | Last | Next |

User Setting

No.	Full Name	Displayed Name	Range(°C)	Range(°F)	Default
1	Water out temperature for cooling	WOT-Cool	7~25°C [Without Floor] 18~25°C [With Floor]	45~77°F [Without Floor] 64~77°F [With Floor]	7°C/45°F[Without Floor] 18°C/64°F[With Floor]
2	Water out temperature for heating	WOT-Heat	25~55°C[High temp.] 25~45°C[Normal temp.]	77~131°F[High temp.] 77~113°F[Normal temp.]	45°C/113°F[High temp.] 35°C/95°F[Normal.]
3	Room temperature for cooling	RT-Cool	18~30°C	64~86°F	24°C/75°F
4	Room temperature for heating	RT-Heat	18~30°C	64~86°F	20°C/68°F
5	Tank temperature	T-water tank	40~80°C	104~176°F	50°C/122°F
6	Eheater-on ambient temperature	T-Eheater	-22~18°C	-8~64°F	-7°C/19°F
7	Extra-heater-on ambient temperature	T-Extraheater	-22~18°C	-8~64°F	-15°C/5°F
8	Max heat pump waterout temperature (no eheater)	T-HP Max	40~50°C	104~122°F	50°C/122°F
9	Solar kit-max water temp	Solarwater Max	50~80°C	122~176°F	80°C/176°F
10	Lower limit ambient temperature at the Weather-dependent Mode for heating	Lower AT-Heat	-20~5°C	-4~41°F	-15°C/5°F Set to default value when the Weather-dependent Mode setting changes.
11	Upper limit temperature at the Weather-dependent Mode for heating	Upper AT-Heat	10~20°C	50~68°F	15°C/59°F Set to default value when the Weather-dependent Mode setting changes.
12	Upper limit room temperature at the Weather-dependent Mode for heating	Upper RT-Heat	22~30°C	72~86°F	24°C/75°F Set to default value when the Weather-dependent Mode setting changes.
13	Lower limit room temperature at the Weather-dependent Mode for heating	Lower RT-Heat	18~21°C	64~70°F	20°C/68°F Set to default value when the Weather-dependent Mode setting changes.
14	Upper limit water-out temperature at the Weather-dependent Mode for heating	Upper WT-Heat	46~55°C[High temp.] 30~35°C[Normal temp.]	115~131°F[High temp.] 86~95°F [Normal temp.]	48°C/118°F[High temp.] 35°C/95°F[Low temp.] Set to default value when the Weather-dependent Mode setting changes.
15	Lower limit water-out temperature at the Weather-dependent Mode for heating	Lower WT-Heat	36~45°C[High temp.] 25~29°C[Normal temp.]	97~113°F[High temp.] 77~84°F [Normal temp.]	40°C/104°F[High temp.] 29°C/84°F[Low temp.] Set to default value when the Weather-dependent Mode setting changes.
16	Lower limit ambient temperature at the Weather-dependent Mode for cooling	Lower AT-Cool	10~25°C	50~77°F	25°C/77°F Set to default value when the Weather-dependent Mode setting changes.
17	Upper limit temperature at the Weather-dependent Mode for cooling	Upper AT-Cool	26~48°C	79~118°F	40°C/104°F Set to default value when the Weather-dependent Mode setting changes.
18	Upper limit room temperature at the Weather-dependent Mode for cooling	Upper RT-Cool	24~30°C	75~86°F	27°C/81°F Set to default value when the Weather-dependent Mode setting changes.

19	Lower limit room temperature at the Weather-dependent Mode for cooling	Lower RT-Cool	18~23°C	64~73°F	22°C/72°F Set to default value when the Weather-dependent Mode setting changes.
20	Upper limit water-out temperature at the Weather-dependent Mode for cooling	Upper WT-Cool	15~25°C[Without Floor] 22~25°C[With Floor]	59~77°F [Without Floor] 72~77°F [With Floor]	15°C/59°F[Without Floor] 23°C/73°F[With Floor] Set to default value when the Weather-dependent Mode setting changes.
21	Lower limit water-out temperature at the weather-dependent mode for cooling	Lower WT-Cool	7~14°C[Without Floor] 18~21°C[With Floor]	45~57°F[Without Floor] 64~70°F[With Floor]	7°C/45°F[Without Floor] 18°C/64°F[With Floor] Set to default value when the Weather-dependent Mode setting changes.
22	Temperature deviation for cooling	ΔT-Cool	2~10°C	36~50°F	5°C/41°F
23	Temperature deviation for heating	ΔT-Heat	2~10°C	36~50°F	10°C/50°F
24	Temperature deviation for heating water	ΔT-hot water	2~8°C	36~46°F	5°C/41°F
25	Room temp variation	ΔT-Room temp	1~5°C	36~41°F	2°C/36°F
26	Run time	Run time	1~10min	/	3min[Without Floor]
				/	5min[With Floor]
27	Solar kit-start temp variation	T-Solar start	10~30°C	50~86°F	15°C/59°F
28	Reserved	Reserved	0:00~24:00	/	8:00
29	Reserved	Reserved	0:00~24:00	/	18:00

2.3.2 Weather-dependent Parameter Group

(1) in **heating** mode , T-water out **Ctrl.state, Normal temp.**
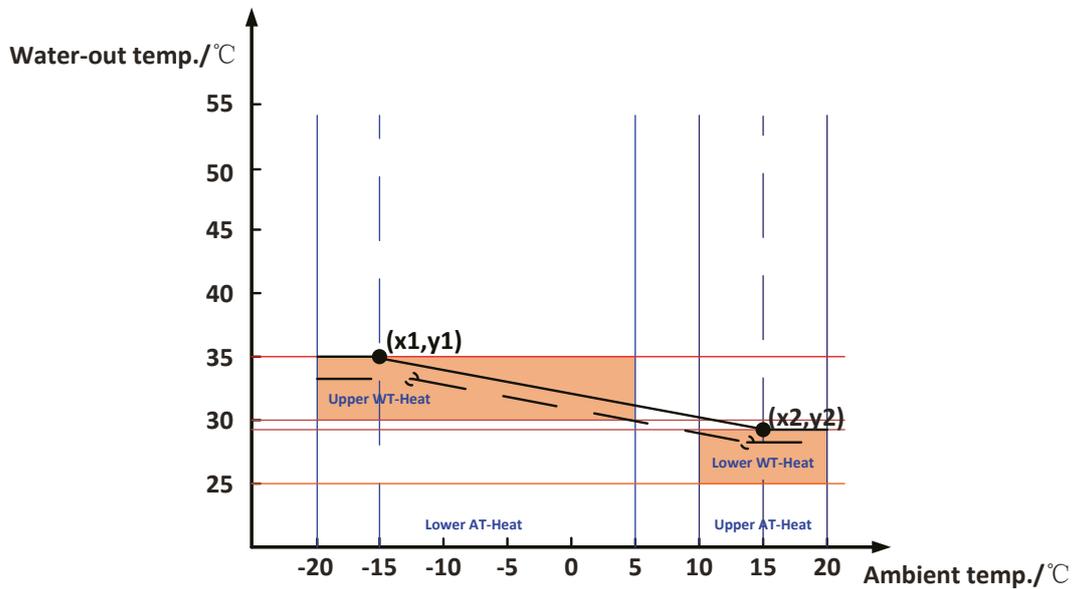
x1:Lower AT-Heat,-20~5℃ ， default -15℃ ; y1: Upper WT-Heat,30~35℃ ， default 35℃

x2: Upper AT-Heat,10~20℃ ， default 15℃ ; y2: Lower WT-Heat,25~29℃ ， default 29℃

25

(2) in **heating** mode , T-room **Ctrl.state**
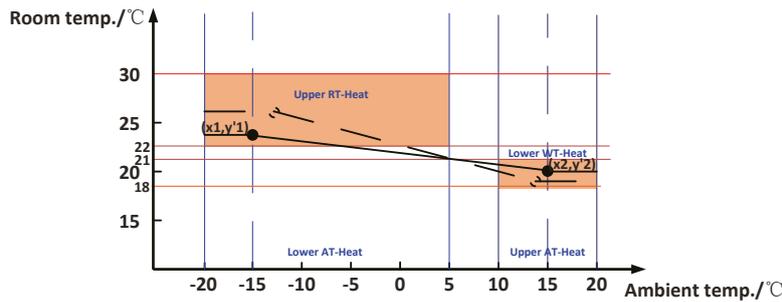
x1:Lower AT-Heat,-20~5℃，default -15℃ ; y'1: Upper WT-Heat,22~30℃，default 24℃

x2: Upper AT-Heat,10~20℃，default 15℃ ; y'2: Lower WT-Heat,18~21℃，default20℃

2.4 View
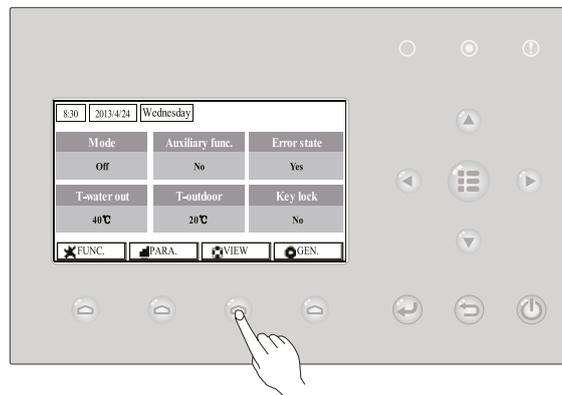
At the view pages, the user is enabled to view the unit's running state, running parameters, errors, version of the wired controller etc.

[Operation Instructions]

At the homepage, by pressing the Function key no.3 , it is able to go to the **VIEW** page as shown in the figure below.
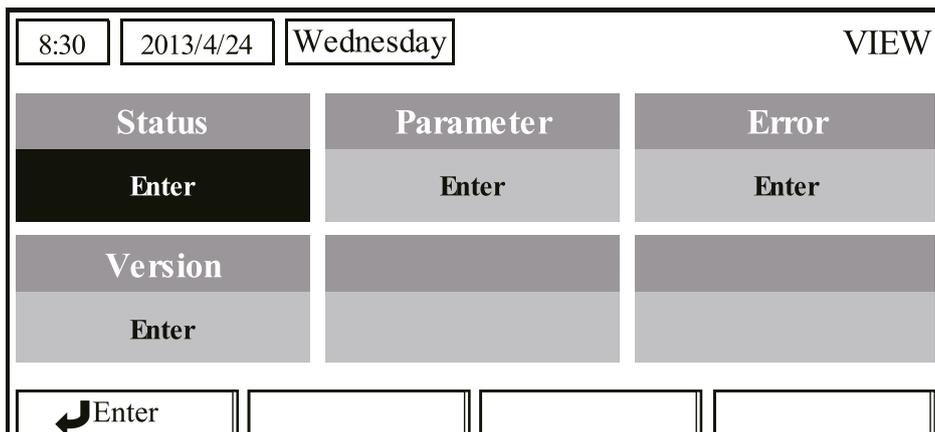
2.4.1 Status View

At the status view pages, the user is enabled to view the unit's running status, like compressor On/Off, fan 1 On/Off, water pump On/Off, antifreeze On/Off, defrost On/Off etc.

As interfaces for the swimming pump, 3-way valve and 2-way valve 2 are unavailable for the some units, the corresponding status of these devices is "Off". The installation and wiring diagrams always prevail.

[Operation Instructions]

(1) At the **VIEW** page, select "**Status**" and then press the OK key to go to the **STATUS** page.

(2) At the **STATUS** page, it is able to check the status of each component.

```
┌──────────────────────────────────────────────────────────┐
│ ┌──────┐ ┌──────────┐ ┌──────────┐                        │
│ │ 8:30 │ │2013/4/24 │ │Wednesday │          STATUS        │
│ └──────┘ └──────────┘ └──────────┘                        │
│                                                            │
│   ┌────────────┐  ┌────────────┐  ┌────────────┐           │
│   │ Compressor │  │   Fan 1    │  │   Fan 2    │           │
│   ├────────────┤  ├────────────┤  ├────────────┤           │
│   │    Off     │  │    Off     │  │    Off     │           │
│   └────────────┘  └────────────┘  └────────────┘           │
│   ┌────────────┐  ┌────────────┐  ┌────────────────┐       │
│   │  HP-pump   │  │  SL-pump   │  │ Swimming-pump  │       │
│   ├────────────┤  ├────────────┤  ├────────────────┤       │
│   │    Off     │  │    Off     │  │      Off       │       │
│   └────────────┘  └────────────┘  └────────────────┘       │
│   ┌──────────┐ ┌──────────┐ ┌──────────┐ ┌──────────┐      │
│   │          │ │          │ │ ⬆ Last   │ │ ⬇ Next   │      │
│   └──────────┘ └──────────┘ └──────────┘ └──────────┘      │
└──────────────────────────────────────────────────────────┘
```

Viewable Components

Full Name	Displayed Name	Status
Compressor running state	Compressor	On/Off
Fan 1 running state	Fan 1	On/Off
Fan 2 running state	Fan 2	On/Off
Heat pump-water pump	HP-pump	On/Off
Solar water pump running state	SL-pump	On/Off
Swimming-pump (invalid)	Swimming-pump (invalid)	On/Off
Tank heater running state	Tank heater	On/Off
3-Way valve 1 running state (invalid)	3-way valve 1 (invalid)	On/Off
3-Way valve 2 running state	3-way valve 2	On/Off
Crankcase heater running state	Crankc.heater	On/Off
Chassis heater running state	Chassis heater	On/Off
Reserved	Reserved	Reserved
Defrost	Defrost	On/Off
Oil return	Oil return	On/Off
Thermostat	Thermostat	Off/Cool/Heat
Assistant heater running state	Assist. Heater	On/Off
Circulating two-way valve 1 running state	2-way valve 1	On/Off
Circulating two-way valve 2 running state (invalid)	2-way valve 2 (invalid)	On/Off
Gate-Ctrl.	Gate-Ctrl.	Card in/Card out
Opration LED	Opration LED	On/Off
Error LED	Error LED	On/Off
4-way valve running state	4-way valve	On/Off
Reserved	Reserved	Reserved
Heat pump-auxiliary heater 1	HP-heater 1	On/Off
Heat pump-auxiliary heater 2	HP-heater 2	On/Off
Solar kit- freeze protection	SL-Antifree	On/Off
Heat pump-freeze protection	HP-Antifree	On/Off

2.4.2 Parameter View (Para View)

At the parameter view pages, the unit is enabled to view the units' running parameters, like outdoor temperature, suction temperature, discharge temperature, water in temperature, water out temperature etc.

[Operation Instructions]

(1) At the VIEW page, select Parameter and then press the OK key 🔄 to go to the Para View page.

(2) At the **Para View** page, it is able to view each parameter.

8:30	2013/4/24	Wednesday			PARAMETER
T-outdoor		**T-suction**		**T-discharge**	
26℃		26℃		26℃	
T-defrost		**T-water in PE**		**T-waterout PE**	
26℃		26℃		26℃	
				⬆Last	⬇Next

No.	Full Name	Displayed Name
1	Outdoor temperature	T-outdoor
2	Suction temperature	T-suction
3	Discharge temperature	T-discharge
4	Defrost temperature	T-defrost
5	Plate heat exchanger Water in temperature	T-water in PE
6	Plate heat exchanger water-out temperature	T-waterout PE
7	E-heater water-out temperature	T-waterout EH
8	Water tank temperature set point	T-tank ctrl.
9	Water tank temperature reading	T-tank display
10	Remote room temperature	T-remote room
11	Solor kit-entering water temp	T-SL water I
12	Solor kit-leaving water temp	T-SL water O
13	Solar panel temp	T-SL panel
14	Discharge pressure	Dis.pressure
15	Reserved	Reserved
16	Reserved	Reserved
17	Target temperature for Weather-dependent Mode	T-auto mode
18	Target temperature for floor debug	T-floor debug
19	Time period for floor debug	Debug time
20	T-liquid	T-liquid
21	T-RGP	T-RGP
22	Swimming pool-water temp (invalid)	T-Swimming (invalid)
23	Swimming pool-entering water temp (invalid)	T-Swimming in (invalid)
24	Swimming pool-leaving water temp (invalid)	T-Swimming out (invalid)

2.4.3 Error View

At the error view pages, the user is enabled to see which error the unit suffers.

[Operation Instructions]

(1) At the **VIEW** page, select **Error** and then press the OK key [⏎] to go to the **ERROR** page.

(2) At the **Error View** page, it is able to view each error.

8:30	2013/4/24	Wednesday		ERROR

Error 1	Error 2	Error 3
Ambient sensor	**Cond. sensor**	**Disch. sensor**

Error 4	Error 5	Error 6
Suction sensor	**Outdoor fan**	**Comp. overload**

		⬆Last	⬇Next
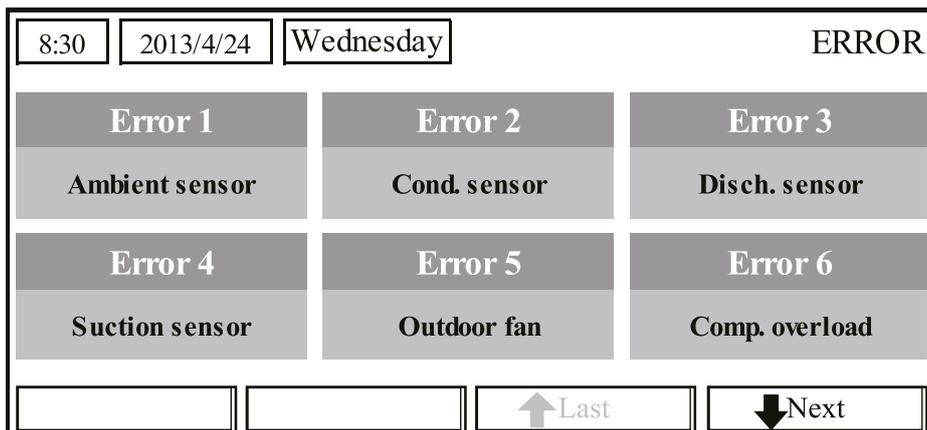
[Notes]

(a) The real-time error will show on the control. Taking Error 2 in the above figure for example, when it is recovered, it will disappear and be replaced by Error 3, and other errors follow the same way.

(b) If the total no. of errors exceed six, other errors should be viewed by switching pages through "**Last**" 🔘

and "**Next**" 🔘.

(c) Any one among "**IDU auxiliary heater 1 error**", "**IDU auxiliary heater 2 error**", "**Water tank heater error**" occurs, the control will beep until this error has been cleared.

(d) As some functions are available for the unit, therefore error codes for these functions are also unavailable, like swimming pool heating function.

See the following table for error description.

| No.	Full Name	Displayed Name	Error Code
1	Ambient temperature sensor error	Ambient sensor	F4
2	Defrost temperature sensor error	Defro. sensor	d6
3	Discharge temperature sensor error	Disch. sensor	F7
4	Suction temperature sensor error	Suction sensor	F5
5	Outdoor fan error	Outdoor fan	EF
6	Compressor internal overload protection	Comp. overload	H3
7	High pressure protection	High pressure	E1
8	Low pressure protection	Low pressure	E3
9	High discharge protection	Hi-discharge	E4
10	Refrigerant loss protection	Refri-loss	P2
11	Heat pump-water pump protection	HP-pump	E0
12	Solar kit-water pump protection	SL-pump	EL
13	Incorrect capacity DIP switch setting	Capacity DIP	c5
14	Communication error between indoor and outdoor unit	ODU-IDU Com.	E6
15	Drive communication error	Drive com.	
16	High pressure sensor error	HI-pre. sens.	Fc
17	Refrigerant liquid line temperature sensor error	Temp-RLL	F1
18	Refrigerant gas line temperature sensor error	Temp-RGL	F0
19	Swimming pool-water flow switch	SW-Water SW	F1
20	Heat exchanger-leaving water temperature sensor error	Temp-HELW	F9
21	Auxiliary heater-leaving water temperature sensor error	Temp-AHLW	dH
22	Heat exchanger-entering water temperature sensor error	Temp-HEEW	

23	Water tank water temperature sensor 1 error	Tank sens. 1	FE
24	Water tank water temperature sensor 2 error	Tank sens. 2	
25	Solar kit-entering water temp sensor	T-SL water out	
26	Solar kit-leaving water temp sensor	T-SL water in	FH
27	Solar kit- temp sensor	T-solar battery	FF
28	Remote room sensor 1	T-Remote Air1	F3
29	Remote room sensor 2	T-Remote Air2	
30	Heat pump-water flow switch	HP-Water SW	Ec
31	Solar kit-water flow switch	SL-Water SW	F2
32	Welding protection of the auxiliary heater 1	Auxi. heater 1	EH
33	Welding protection of the auxiliary heater 2	Auxi. heater 2	EH
34	Welding protection of the water tank heater	Auxi. -WTH	EH
35	Under-voltage DC bus or voltage drop error	DC under-vol.	PL
36	Over-voltage DC bus	DC over-vol.	PH
37	AC current protection (input side)	AC curr. pro.	PA
38	IPM defective	IPM defective	H5
39	PFC defective	PFC defective	Hc
40	Start failure	Start failure	Lc
41	Phase loss	Phase loss	LD
42	Communication error	drive-main com.	LE
43	Drive module resetting	Driver reset	P6
44	Compressor over-current	Com. over-cur.	P0
45	Overspeed	Overspeed	P5
46	Sensing circuit error or current sensor error	Current sen.	LF
47	Desynchronizing	Desynchronize	Pc
48	Compressor stalling	Comp. stalling	H7
49	Radiator or IPM or PFC module overtemperature	Overtemp.-mod.	P8
50	Radiator or IPM or PFC module temperature sensor error	T-mod. sensor	P7
51	Charging circuit error	Charge circuit	Pu
52	Incorrect AC voltage input	AC voltage	PP
53	Drive board temperature sensor error	Temp-driver	PF
54	AC contactor protection or input zero crossing error	AC contactor	P9
55	Temperature drift protection	Temp. drift	PE
56	Current sensor connection protection (current sensor not connected to phase U/V)	Sensor con.	PD
57	Communication error to the outdoor unit	ODU Com.	E6
58	Communication error to the indoor unit	IDU Com.	E6
59	Communication error to the drive	Driver Com.	E6
60	Solar kit-superheating	Solarsuperheat	F6
61	Swimming pool-water pump protection	Swimming-pump	
62	Swimming pool-entering water temp sensor	T-Swimming in	
63	Swimming pool-leaving water temp sensor	T-Swimming out	
64	Swimming pool-water temp sensor	T-Swimming	

2.4.4 Version View (VERSION)

At the version view page, the user is enabled to see the version of the program and the protocol.

[Operation Instructions]

1. At the **VIEW** page, select **Version** and then press the OK key to go to the **VERSION** page.

2. At the **VERSION** page, the program and protocol versions are listed.

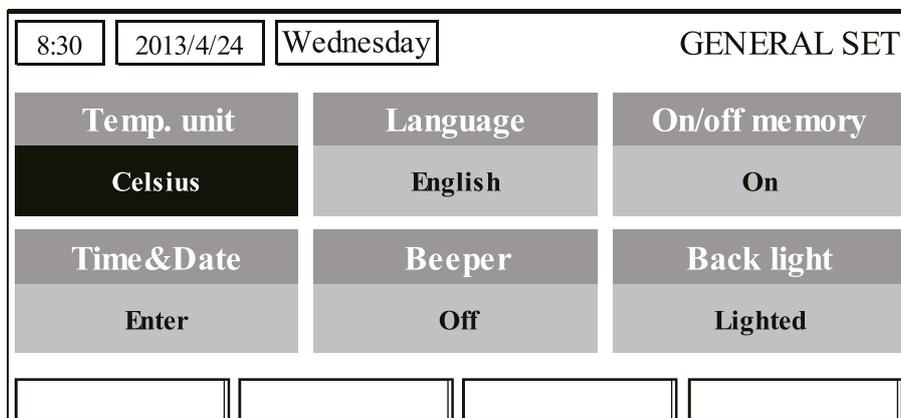| 8:30	2013/4/24	Wednesday		VERSION
Program		**Protocol**		
V 10		**V 10**		
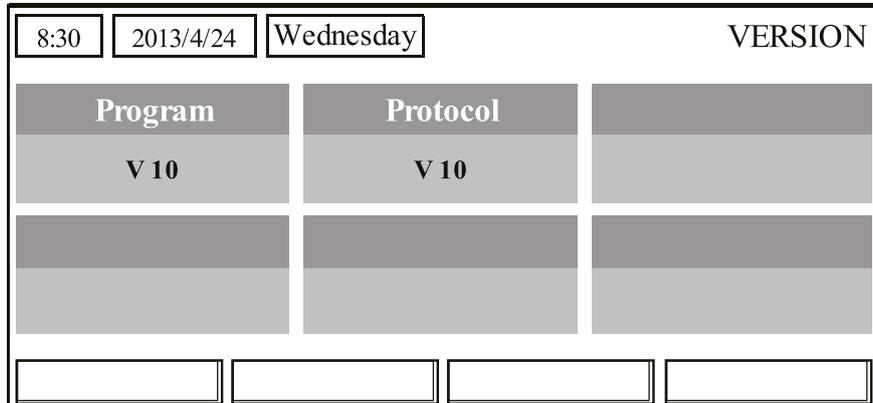
2.5 General Setting

At the general setting pages, the user is enabled to configure general parameters, like temperature unit, language, On/off memory, time & date etc.
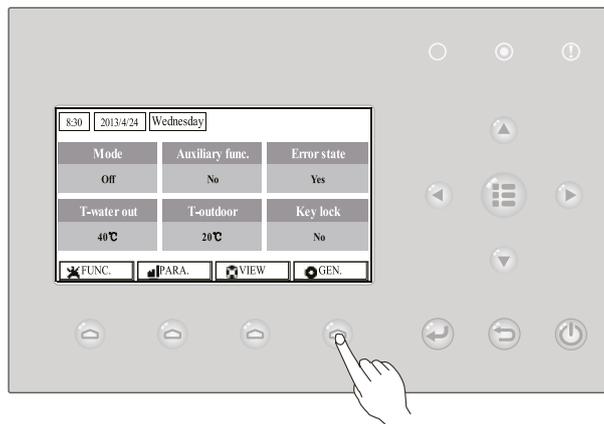
[Operation Instructions]

At the homepage, by pressing "**GEN.**" access to the GENERAL SET page. At this page, it is able to set "**Temp. unit**", "**Language**", "**On/off memory**", "**Time & Date**", "**Beeper**" and "**Back light**", as shown in the figure below.

8:30	2013/4/24	Wednesday	GENERAL SET
Temp. unit	**Language**	**On/off memory**
Celsius	**English**	**On**
Time&Date	**Beeper**	**Back light**
Enter	**Off**	**Lighted**

No.	Full Name	Displayed Name	Range	Default	Remarks
1	Temperature unit	Temp. unit	Celsius/Fahrenheit	Celsius	/
2	Language	Language	English	English	/
3	On/off memory	On/off memory	On/Off	On	/
4	Time&Date	Time&Date	/	/	/
5	Beeper	Beeper	On/Off	On	/
6	Back light	Back light	Lighted/Energy save	Energy save	"On": it always lights on. "Eco": it lights off when there is no key operation for 1 minute, and will lights on where there is any key operation.

2.5.1 Time&Date

[Operation Instructions]

At the homepage, by pressing "**GEN.**" ⌂ access to the **GENERAL SET** page. Then, select "**Time & Date**" at this page. After that, go to the "**Time & Date**" setting page by pressing the OK key ↵ .

Change the set value by pressing the Up/Down key ▲ ▼ . Then by pressing "**Save**", a pop-up window will pop up to remind if you are determined to save this setting. If so, press the OK key ↵ . If not, press the Cancel key ↶ to not save this setting. The saving setting will update at the upper left corner of the control.

8:30	2013/4/24	Wednesday	Time&Date

Year	Mounth	Day
2013	**4**	**25**

Hour	Minute	
16	**35**	

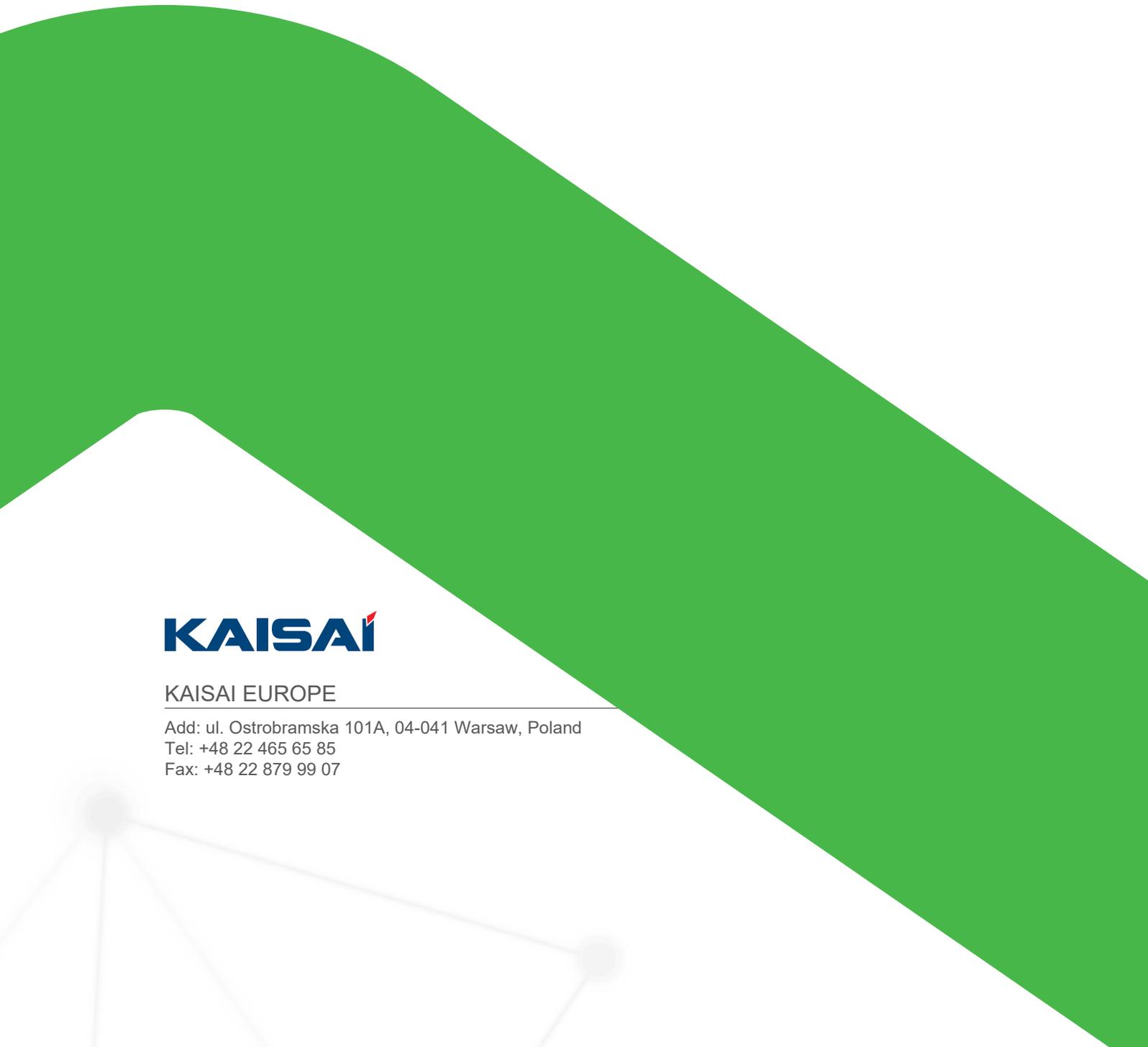|	♟ Save		

2.6 Key Lock

This function can be activated or deactivated through the wired controller. Once it is activated, any key operation will become ineffective.

[Operation Instructions]

At the homepage, by pressing the up and down keys ▲ ▼ simultaneously for 5 seconds, it is able to activate or deactivate this function. When it is activated, any key operation is ineffective and the key lock icon in main page and standby page will display Yes.

8:30	2013/4/24	Wednesday

Mode	Auxiliary func.	Error state
Off	No	Yes
T-water out	**T-outdoor**	**Key lock**
40℃	20℃	Yes

✖ FUNC.	▮▮ PARA.	⊡ VIEW	⬢ GEN.

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