



***Owner's Manual***  
**Original Instructions** INVERTER  
Commercial Air Conditioners

**Controller for Inverter Modular Air-cooled Chillers**

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



## To Users

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

- (1) This instruction manual is a universal manual, some functions are only applicable to particular product. All the illustrations and information in the instruction manual are only for reference.
- (2) All the illustrations and information in the instruction manual are only for reference. In order to make the product better, we will continuously conduct improvement and innovation without further notice.
- (3) For personal injury or property loss and damage caused by improper operation such as improper installation and debugging, unnecessary maintenance, violation of related national laws and rules and industrial standard, and violation of this instruction manual, etc., we will bear no liability.

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# 1 General introduction



(This picture is just for reference and the border only indicates its shape.)

It uses the capacitor type touch screen for information input. The effective touch area is the middle rectangular part.

As the flexibility of the control panel is quite high, it would make an accidental response when there is foreign matter on the surface of the control panel.

Therefore, please keep the both the touch screen and the finger clean during operation. Also, please keep the control panel far away from the source of high intensity electromagnetic interference.

Note: the function for the press button at the upper right corner is reserved and there will no response to this operation. This picture as shown above is just for reference.

## 1.1 Homepage



Homepage

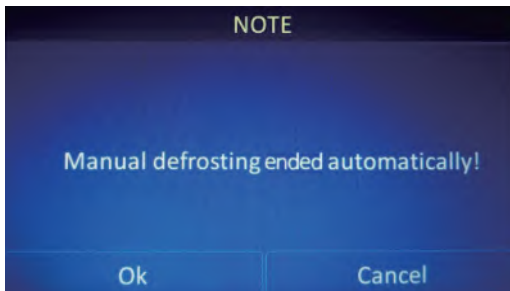
No.	Function description
1	Error icon and name, BMS alert
2	Year, month, day, hour, and minute
3	Quantity of the on-line units
4	ON/OFF mode
5	Temperature set point under the corresponding control mode
6	Menu icon
7	It is intended to move the cursor right.
8	On/Off key. When "Contact ON/OFF" or ON/OFF timer has been activated, ON/OFF status will change with the actual status of the unit.

- (1) It is defaulted to keep at the homepage.
- (2) Touching the menu icon is able to access the menu page.
- (3) If there is BMS communication, the BMS alert "**Remote control:Exist**" will be displayed circularly in five minutes.
- (4) If there are errors, their icons and names will be displayed circularly (one time every second) instead.



**[Notes]**

When there is no any operation in ten minutes at any page, except the warming pages as shown in the figure below, it will automatically back to the homepage.



1.2 Menu page

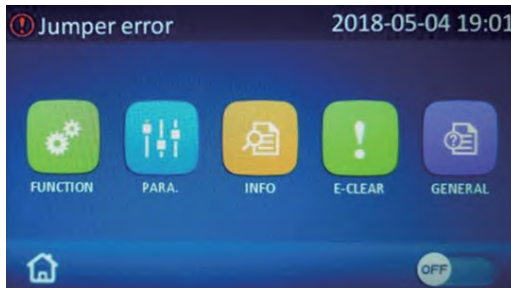


Menu page

No.	Item	Functional description
1	FUNCTION	It is used to access the function setting pages.
2	PARA.	It is used to access the parameter setting pages.
3	INFO	It is used to access the information viewing pages.
4	E-CLEAR	It is used to access the error clearing and "Unlock discharge failure" page.
5	GENERAL	It is used to access the general setting pages.
6	Homepage icon	It is used to go back to the homepage.
7	ON/OFF key	On/Off key. When "Contact ON/OFF" or ON/OFF timer has been activated, ON/OFF status will change with the actual status of the unit.

[Notes]

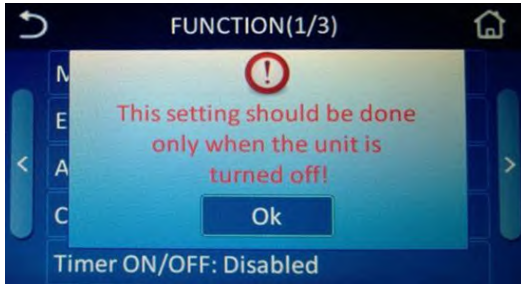
- (a) The unit status will be displayed at the left upper corner of the control panel.
- (b) If there is BMS communication, the BMS alert "Remote control:Exist" will be displayed circularly in five minutes.
- (c) If there are errors, their icons and names will be displayed circularly (one time every second) instead.



### 1.3 Introduction to the pop-up windows

When any operation fails or is incorrect, a window will pop up.

- (1) When this is any pop-up window, except touching "Ok", any other touching is ineffective. Then, the pop-up window would disappear and normal operation to the control panel resumes.
- (2) When it is detected that there is no any operation in ten seconds after a window pops up, it will disappear and normal operation to the control panel resumes.



### 1.4 Backlight

When it is deactivated, the control panel will automatically light off 5 minutes later after there is no any operation to the control panel. Any touching to the effective area will again light on the control panel.

When this function is activated, the control panel will be lighted on.

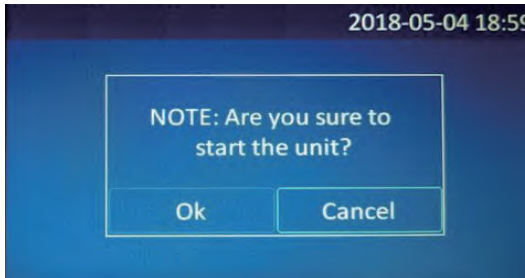
It is suggested to deactivate it to extend the service life.

## 2 Operation instructions

For functions unavailable for this unit, "N/A" will be displayed or they cannot be set during operation.

### 2.1 On/Off

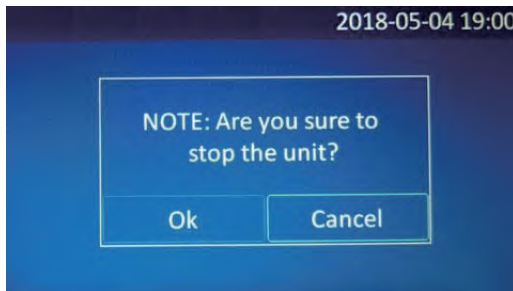
At the homepage and menu page when the unit is "OFF", by touching "ON/OFF", the control panel will access the following page.



Press "Ok" and then the control panel will access the following "ON" page.



At the homepage and menu page when the unit is "ON", by touching "ON/OFF", the control panel will access the following page.



Press "Ok" and then see the page below.



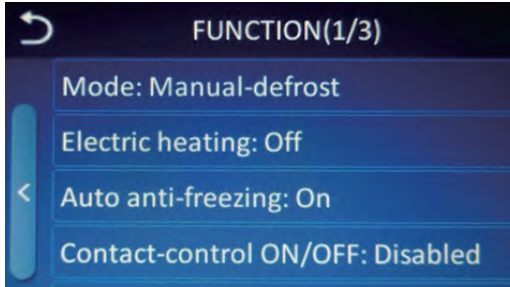
**[Notes]**

Upon first power-on, the On/Off status will not be memorized. However, once "ON/OFF memory" is set to "ON" at the function setting page the On/Off status will be memorized upon next power-on. When "ON/OFF memory" is set to "No", the control panel will keep OFF status upon next each power-on, as shown in the figure above.

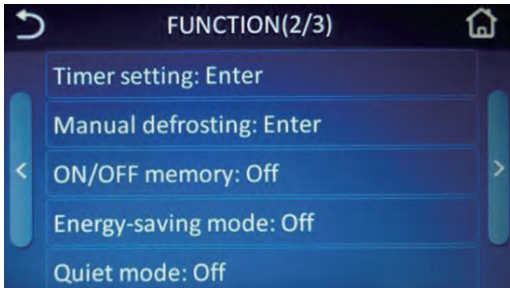


## 2.2 Functions

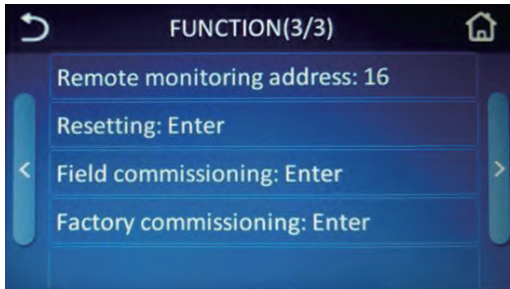
At the menu page, it will go to the parameter setting page by touching "FUNCTION", as shown in the figure below.



Function page 1



Function page 2



Function page 3

At the function setting page, the last page or next page icon allows the control panel accessing to the last or next function page; the homepage icon allows going back to the homepage; and the back icon allows to the super-menu page.

At the function setting page, touching the desired function option will access the corresponding function setting page.

At the desired function setting page, touching "Ok" will save the setting and touching "Cancel" will exit this setting. Meanwhile the control panel will back to the function setting page under both conditions.

**[Notes]**

- (a) When there is submenu for the desired function option, by touching it, the control panel will access the sub-menu setting page.
- (b) At the setting page, press **"Ok"** finish and save this setting. However, in this case, there will be no alert message.
- (c) At the function setting page, when any function status is changed and memorized, it will resume the changed status upon next power-on.

See the table below for more details about each function.

No.	Name	Range	Interpretation
1	Mode	Manual-defrost; Heat; Cool	It can be set under the OFF status.
2	Electric heating	Off; On	It is unavailable for the cooling only unit.
3	Auto anti-freezing	Off; On	/
4	Contact-control ON/OFF	Disabled; Enabled	/
5	Timer ON/OFF	Disabled; Enabled	It allows the unit to be timed on or off.
6	Timer setting	Enter	It is used to set the timer.
7	Manual defrosting	Enter	It can be set when the unit is off and "Mode" is set to "Manual-defrost".
8	ON/OFF memory	Off; On	/
9	Energy-saving mode	Off; On	/
10	Quiet mode	Off; On	/
11	Remote monitoring address	1~255	/
12	Resetting	Enter	Except the language setting
13	Field commissioning	Enter	/
14	Factory commissioning	Enter	/

**(1) Mode**

At the function setting page, when the unit is OFF, by touching **"Mode"**, the control panel will go to the corresponding setting page. Then, select the desired option. After that, by touching **"Ok"**, this setting will be saved and the control panel will go back to the function setting page; or by touching **"Cancel"** this setting will not be saved and directly go back to the function setting page.

**[Notes]**

- (a) For the cooling only unit, only **"Cool"** is available.
- (b) When it is set to **"Manual-defrost"**, it will access the corresponding setting page. Then, see Section for more details.
- (c) It can be memorized upon power failure.

**(2) Electric heating**

At the function setting page, by touching **"Electric heating"**, the control panel will go to the corresponding setting page. Then, select the desired option.

After that, by touching **"Ok"**, this setting will be saved and the control panel will go back to the function setting page; or by touching **"Cancel"** this setting will not be saved and directly go back to the function setting page.

**[Notes]**

- (a) It is defaulted to be “Off” upon first power-on.
- (b) This function is unavailable for the cooling only unit.
- (c) It can be memorized upon power failure.
- (3) Auto anti-freezing

At the function setting page, by touching “**Auto anti-freezing**”, the control panel will go to the corresponding setting page. Then, select the desired option. After that, by touching “**Ok**”, this setting will be saved and the control panel will go back to the function setting page; or by touching “**Cancel**” this setting will not be saved and directly go back to the function setting page.

**[Notes]**

- (a) It is defaulted to be “On” upon first power-on
- (b) It can be memorized upon power failure.
- (4) Contact-control ON/OFF

At the function setting page, by touching “**Contact-control ON/OFF**”, the control panel will go to the corresponding setting page. Then, select the desired option. After that, by touching “**Ok**”, this setting will be saved and the control panel will go back to the function setting page; or by touching “**Cancel**” this setting will not be saved and directly go back to the function setting page.

**[Notes]**

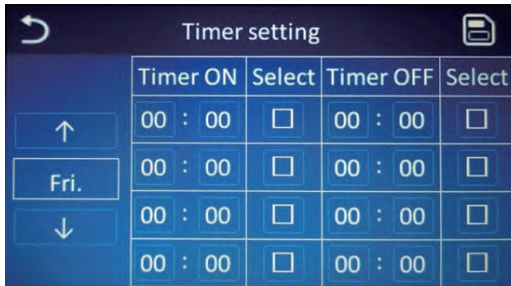
- (a) It is defaulted to be “Off” upon first power-on.
- (b) It can be memorized upon power failure.
- (5) Timer ON/OFF

At the function setting page, by touching “**Timer ON/OFF**”, the control panel will go to the corresponding setting page. Then, select the desired option. After that, by touching “**Ok**”, this setting will be saved and the control panel will go back to the function setting page; or by touching “**Cancel**” this setting will not be saved and directly go back to the function setting page.

**[Notes]**

- (a) It is defaulted to be “Off” upon first power-on.
- (b) When “**Contact-control ON/OFF**” has been activated, “**Timer ON/OFF**” will be automatically be deactivated.
- (c) When it has been activated, it will access the “**Timer setting**” page. Please see Section 2 (6) Time setting for more details.
- (d) It can be memorized upon power failure.
- (6) Timer setting

At the function setting page, by touching “**Timer setting**”, the control panel will go to the corresponding setting page, as shown in the figure below.



Select the week day from Monday to Sunday by the “↑” and “↓” keys.

There are four time periods for each week day. Each time period can be set to ON or OFF.

Touch the desired time point and input the hour and minute (as shown in the figure below).



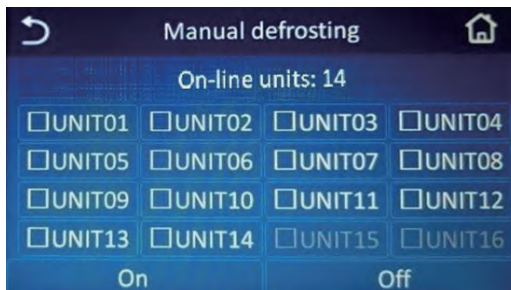
Then, touch “☐” under “Select” to make it turn to “√”, which then indicates the corresponding period has been invalidated.



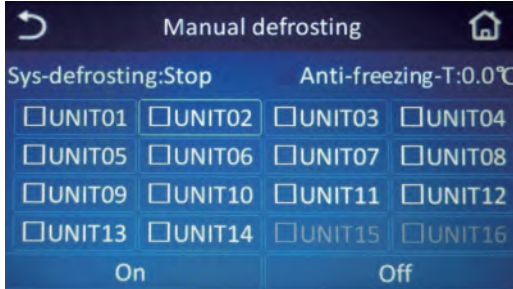
After that, press the saving icon at the upper right corner to save this setting, or press the back icon at the upper left corner to give up this setting.

(7) Manual defrosting

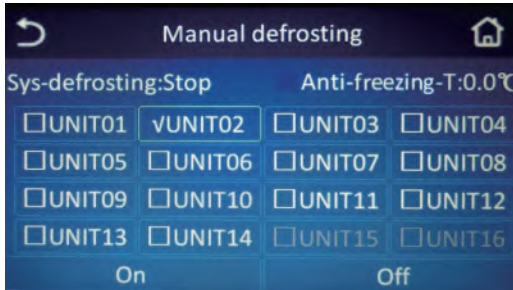
At the function setting page, by touching “Manual-defrost”, the control panel will access the page as shown below.



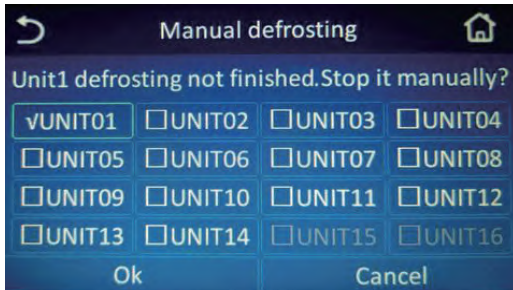
Select the unit in need of defrosting. Once “□” turns green, it indicates this unit has been selected. Two or more units cannot be selected at the same time.



Enable the defrosting function of the selected unit. When “□” turns to “√”, it indicates manual defrosting function for this unit has started as shown in the figure below.



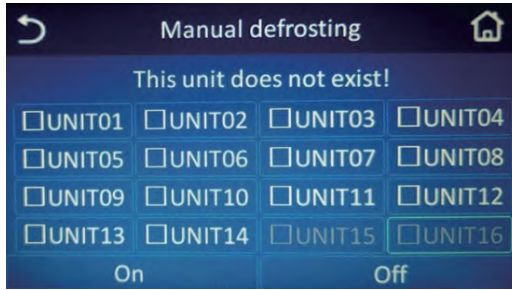
When disable the defrosting function for this unit, there will be a pop-up window, saying, “**UnitXX defrosting not finished.Stop it manually?**” as shown in the figure below.



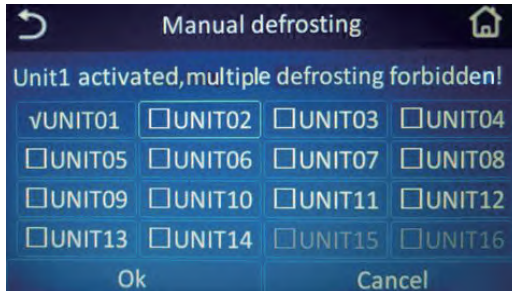
By pressing “**Ok**”, manual defrosting will be deactivated, with “√” changed to “□”.

**[Notes]**

- (a) Before activating this function, “**Mode**” should be firstly set to “**Manualdefrost**”.
- (b) At the unit selection page, the on-line units are in white color and those off-line are in grey.
- (c) This function setting is unavailable to the off-line units.



(d) Do not activate this function for two or more units.



(e) When this function has been enabled for five minutes, however the unit fails to perform defrosting.

Then, this function will be disabled, also warning "**Manual defrosting ended automatically!**"

(f) When this function has been enabled, however actual defrosting will be delayed for some time.

(8) ON/OFF memory

At the function setting page, by touching "**ON/OFF memory**", the control panel will go to the corresponding setting page. Then, by touching "**Ok**", default parameters will be put into use; or by touching "**Cancel**" the control panel will go back to the function setting page; or by touching "**Cancel**" this setting will not be saved and directly go back to the function setting page.

(9) Energy-saving mode

At the function setting page, by touching "**Energy-saving mode**", the control panel will go to the corresponding setting page, where it can be set to be "**On**" or "**Off**". Then, by touching "**Ok**", default parameters will be put into use; or by touching "**Cancel**" the control panel will go back to the function setting page; or by touching "**Cancel**" this setting will not be saved and directly go back to the function setting page.

(10) Quiet mode

At the function setting page, by touching "**Quiet mode**", the control panel will go to the corresponding setting page, where it can be set to be "**On**" or "**Off**". Then, by touching "**Ok**", default parameters will be put into use; or by touching "**Cancel**" the control panel will go back to the function setting page; or by touching "**Cancel**" this setting will not be saved and directly go back to the function setting page.

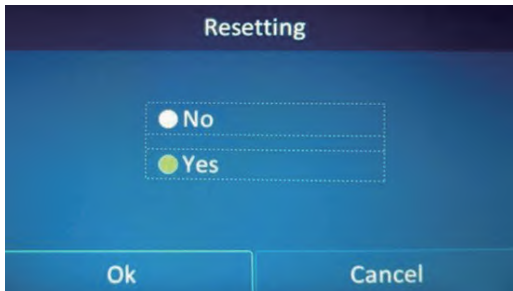
(11) Remote monitoring address

At the function setting page, by touching “**Resetting**”, the control panel will go to the corresponding setting page, as shown below. Then, by touching “**Yes**”, default parameters will be put into use; or by touching “**No**” / “**Cancel**”, the control panel will go back to the function setting page.



(12) Resetting

At the function setting page, by touching “**Resetting**”, the control panel will go to the corresponding setting page, as shown below. Then, by touching “**Yes**”, default parameters will be put into use; or by touching “**No**” / “**Cancel**”, the control panel will go back to the function setting page.



**[Notes]**

- (a) After this setting, all parameters at the user parameter setting page will go back to the default setting.
- (b) After this setting, except clock timer and language at the “**General**” setting page, all will go back to the default setting.
- (c) After this setting, all parameters at the parameter setting page except “**Timer setting**” and “**Manual defrost**” will go back to the default setting.
- (d) It will not function on “**Field commissioning**” and “**Factory commissioning**”.

(13) Field commissioning

At the function setting page, by touching “**Field commissioning**”, the control panel will go to the password input page. Then, by entering correct passwords, it will access the “**Field commissioning**” page, which is used mainly for system parameter setting for repair and maintenance.

**[Notes]**

Arbitrary changes to “**Field commissioning**” will bring series adverse effect to the unit. Therefore, no one is allowed to do this except the approved qualified servicemen.

(14) Factory commissioning

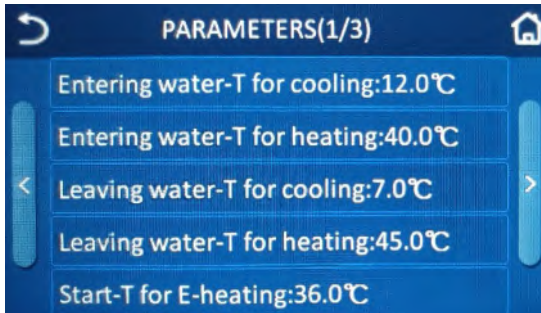
At the function setting page, by touching “**Factory commissioning**”, the control panel will go to the password input page. Then, by entering correct passwords, it will access the “**Factory commissioning**” page, which is used mainly for repair and maintenance by after-sales servicemen.

**[Notes]**

Arbitrary change to “**Factory commissioning**” will bring series adverse effect to the unit. Therefore, no one is allowed to do this except the approved qualified servicemen.

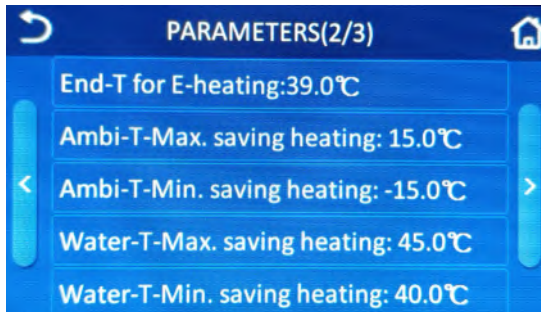
### 2.3 Parameter

At the menu page, by touching “**PARA.**”, the controller will access the parameter setting page, as shown in the figure below.



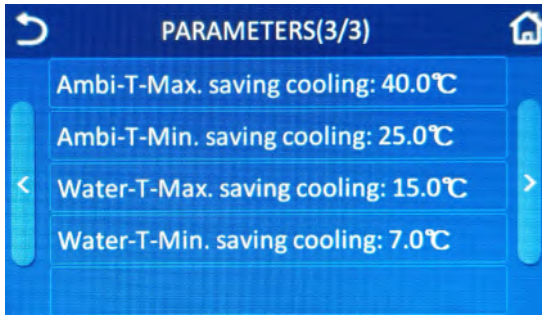
Parameter setting page 1

At the parameter setting page, by touching the last page and next page icons, the desired setting page can be selected.



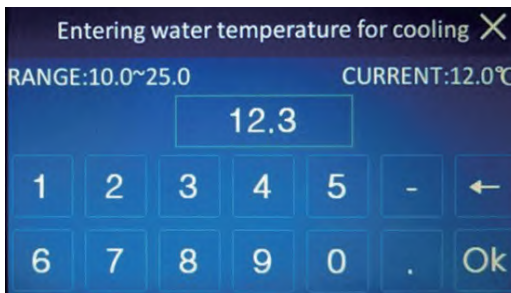
Parameter setting page 2





**Parameter setting page 3**

By touching the desired parameter, the controller will access the corresponding setting pages as shown in the figure below. After that, by touching “Ok”, this setting will be saved and the controller will back to the parameter setting page; while by touching “Cancel”, this setting will not be saved but the controller will back to the parameter setting page.



**[Notes]**

- (a) For the parameters with different defaults under different conditions, when the constraint (like, unit type) changes, the parameter will back to the default value under the corresponding condition.
- (b) When setting for the current parameter is unavailable, “N/A” will be displayed.
- (c) The numerical keypad includes digits from “0~9”, “-”, “.”, “Ok” and the backspace key.
- (d) When the input value is out of the setting range or accuracy of the input value is inconsistent with that of the rated, continuous input will fail or there will be corresponding alert, and also the input value will be automatically deleted.

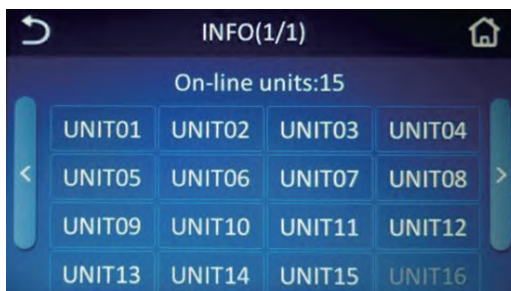
See the table below for the user parameters.

No.	Full name	Displayed name
1	Entering water temperature for cooling	Entering water-T for cooling
2	Entering water temperature for heating	Entering water-T for heating
3	Leaving water temperature for cooling	Leaving water-T for cooling
4	Leaving water temperature for heating	Leaving water-T for heating
5	Start temperature for E-heating	Start-T for E-heating
6	End temperature for E-heating	End-T for E-heating

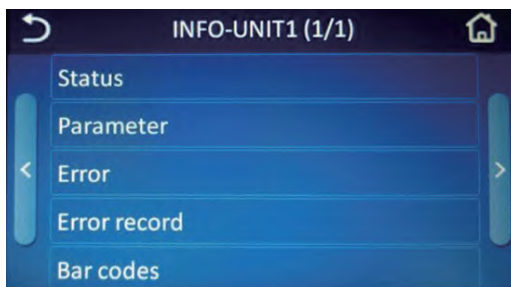
No.	Full name	Displayed name
7	Upper limit of the ambient temperature under the energy saving mode for heating	Ambi-T-Max. saving heating
8	Lower limit of the ambient temperature under the energy saving mode for heating	Ambi-T-Min. saving heating
9	Upper limit of the water temperature under the energy saving mode for heating	Water-T-Max. saving heating
10	Lower limit of the water temperature under the energy saving mode for heating	Water-T-Min. saving heating
11	Upper limit of the ambient temperature under the energy saving mode for cooling	Ambi-T-Max. saving cooling
12	Lower limit of the ambient temperature under the energy saving mode for cooling	Ambi-T-Min. saving cooling
13	Upper limit of the water temperature under the energy saving mode for cooling	Water-T-Max. saving cooling
14	Lower limit of the water temperature under the energy saving mode for cooling	Water-T-Min. saving cooling

## 2.4 Information

At the menu page, by touching "INFO", the control panel will go to the following page.



At the above page, by selecting the desired unit, the control panel will go to the following page.

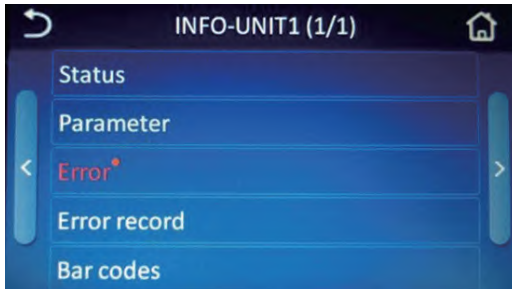


### [Notes]

- It is only available for the on-line units, namely those in white.
- When there is some error, the corresponding unit will be in red and there will a red point at its upper right corner.



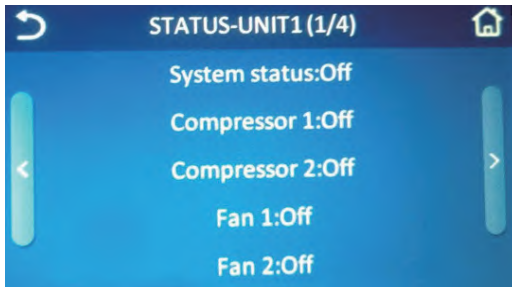
Red indicator



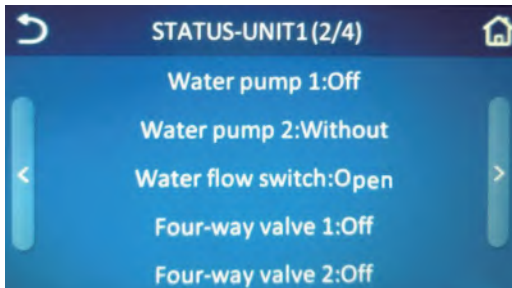
Red point alarm

(1) Status

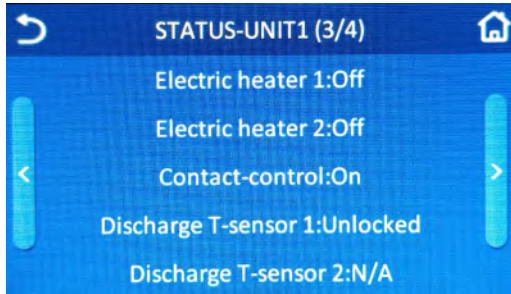
By touching "Status", the control panel will go to the stats pages, where it is able to check the running status of the unit.



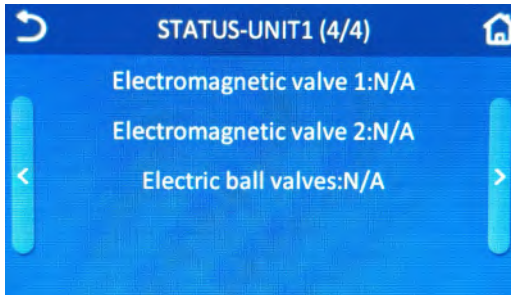
Status page 1



Status page 2



Status page 3



Status page 4

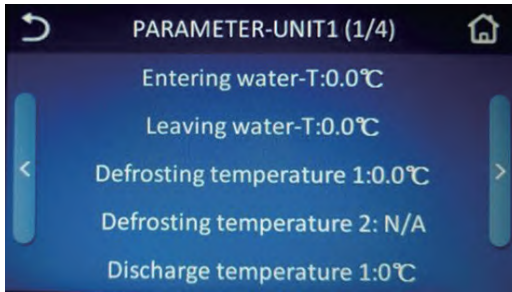
No.	Name	Status	No.	Name	Status
1	System status	Off; Cooling; Heating; Defrosting; Automatic antifreeze	10	Four-way valve 2	On; Off
2	Compressor 1	On; Off	11	Electric heater 1	On; Off
3	Compressor 2	On; Off	12	Electric heater 2	On; Off
4	Fan 1	On; Off	13	Contact-control	On; Off
5	Fan 2	On; Off	14	Discharge T-sensor 1	Unlocked; Locked
6	Water pump 1	On; Off	15	Discharge T-sensor 2	Unlocked; Locked
7	Water pump 2	On; Off; Without	16	Electromagnetic valve 1	On; Off
8	Water flow switch	Closed; Open	17	Electromagnetic valve 2	On; Off
9	Four-way valve 1	On; Off	18	Electric ball valves	On; Off

**[Notes]**

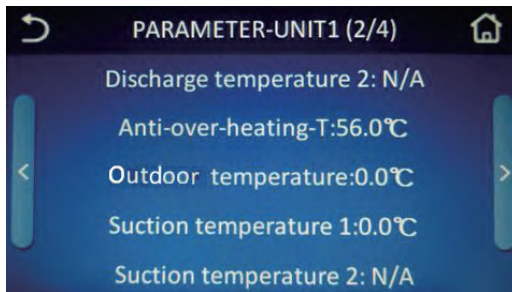
- (a) "N/A" will be displayed for the status which is unavailable for the corresponding unit.
- (b) When "Alternation function" is set to "Off", "Water pump 2" will be defaulted to be "Without".

(2) Parameter

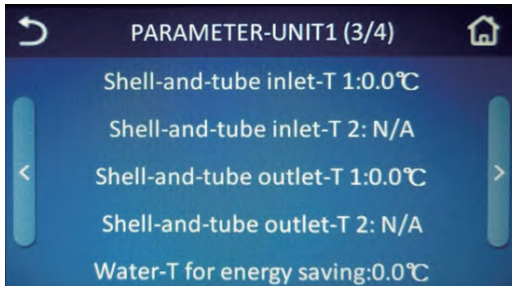
By touching "Parameter", the controller will access the parameter checking page.



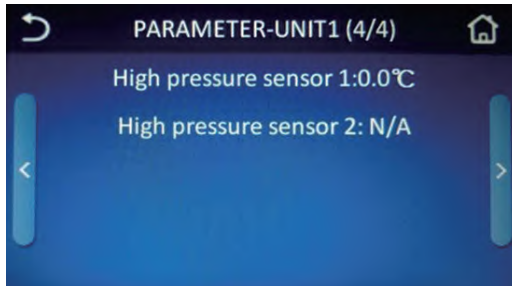
Parameter page 1



Parameter page 2



Parameter page 3



Parameter page 4

No.	Name	No.	Name
1	Entering water-T	10	Suction temperature 1
2	Leaving water-T	11	Suction temperature 2
3	Defrosting temperature 1	12	Shell-and-tube inlet-T 1 (Plate-H-EXCHG inlet-T 1)
4	Defrosting temperature 2	13	Shell-and-tube inlet-T 2 (Plate-H-EXCHG inlet-T 2)
5	Discharge temperature 1	14	Shell-and-tube outlet-T 1 (Plate-H-EXCHG outlet-T 1)
6	Discharge temperature 2	15	Shell-and-tube outlet-T 2 (Plate-H-EXCHG outlet-T 2)
7	Anti-freezing-T	16	Water-T for energy saving
8	Anti-over-heating-T	17	High pressure sensor 1
9	Outdoor temperature	18	High pressure sensor 2

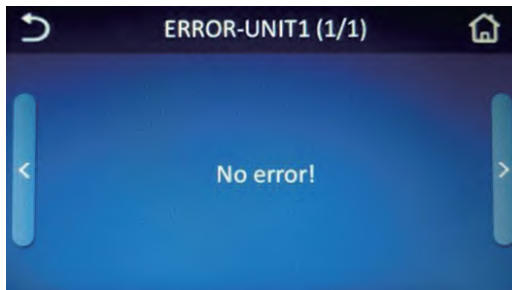
**[Notes]**

(a) "N/A" will be displayed when the temperature value for the corresponding mode or unit does not exist or is invalid.

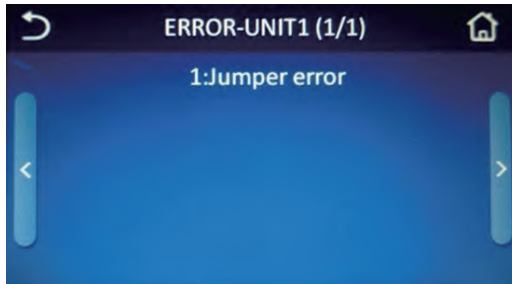
(b) For no.7 and 8 in the table above, when "Mode" is set to "Cool", only "Antifreezing-T" will be displayed; when "Mode" is set to others, only "Anti-overheating-T" will be displayed.

(3) Error

By touching "Error", the control will access the error check page. When there is no any error, the control panel will show as below.

**[Notes]**

The controller can display real-time errors and all real-time errors can be displayed there.



When the quantity of error exceeds 5, by touching the last or next page icon, the desired error can be checked.

See the table below for the error list.

No.	Displayed name	Full name
1	Jumper error	Jumper error
2	Air-Con Water-FS	Air conditioning water flow switch error
3	Sys1 H-discharge-T	Protection against high discharge temperature of system 1
4	Sys2 H-discharge-T	Protection against high discharge temperature of system 2
5	Low Discharge T1	Low discharge temperature of system 1
6	Low Discharge T2	Low discharge temperature of system 2
7	Sys1 high pressure	Protection against high pressure of system 1
8	Sys2 high pressure	Protection against high pressure of system 2
9	Sys1 low pressure	Protection against low pressure of system 1
10	Sys2 low pressure	Protection against low pressure of system 2
11	Entering water TSE	Entering water temperature sensor error
12	Leaving water TSE	Leaving water temperature sensor error
13	Anti-F/anti-H TSE	Anti-freeze/anti-over-heating temperature sensor error
14	Outdoor TSE	Outdoor temperature sensor error
15	Defrosting TSE1	Defrosting temperature sensor of system 1
16	Defrosting TSE2	Defrosting temperature sensor of system 2
17	Dis-TSE1 malfunction	Discharge temperature sensor malfunction of system 1
18	Dis-TSE2 malfunction	Discharge temperature sensor malfunction of system 2
19	Shell&tube inlet TSE1	Shell-and-tube inlet temperature sensor error of system 1
20	Shell&tube inlet TSE2	Shell-and-tube inlet temperature sensor error of system 2
21	Suction TSE1	Suction temperature sensor error of system 1
22	Suction TSE2	Suction temperature sensor error of system 2
23	Pressure TSE1	Pressure sensor error of system 1
24	Pressure TSE2	Pressure sensor error of system 2
25	Commu-E comp1	Communication error of the drive board of compressor
26	Commu-E comp2	Communication error of the drive board of compressor 2
27	Commu-E fan1	Communication error of the drive board of fan 1
28	Commu-E fan2	Communication error of the drive board of fan 2
29	Shell&tube outlet TSE1	Shell-and-tube outlet temperature sensor error of system 1
30	Shell&tube outlet TSE2	Shell-and-tube outlet temperature sensor error of system 2
31	Failure of pump1	Protection against failure of pump 1
32	Failure of pump2	Protection against failure of pump 2

No.	Displayed name	Full name
33	Fan1 error	Fan 1 error
34	Fan2 error	Fan 2 error
35	Over-current-proF1	Over-current protection of fixed frequency fan 1
36	Over-current-proF2	Over-current protection of fixed frequency fan 2
37	DC under-voltageC1	DC busbar under-voltage or voltage drop error of compressor 1
38	DC over-voltageC1	DC busbar over-voltage or voltage drop error of compressor 1
39	IPM errorC1	IPM failure of compressor 1
40	Startup failureC1	Startup failure of compressor 1
41	Dri-Mod resettingC1	Drive module resetting of compressor 1
42	Comp-Over-currentC1	Over-current of compressor 1
43	Current circuit SEC1	Current sensing circuit error or current sensor error of compressor 1
44	DesynchronizingC1	Desynchronizing of compressor 1
45	Comp-Dri-Comm-EC1	Communication error to the drive of compressor 1
46	HS-IPM-PFC over-TC1	Heat sink or IPM or PFC overtemperature of compressor 1
47	HS-IPM-PFC SEC1	Heat sink or IPM or PFC temperature sensor error of compressor 1
48	Charging circuit-EC1	Charging circuit error of compressor 1
49	DC under-voltageC2	DC busbar under-voltage or voltage drop error of compressor 2
50	DC over-voltageC2	DC busbar over-voltage or voltage drop error of compressor 2
51	IPM errorC2	IPM failure of compressor 2
52	Startup failureC2	Startup failure of compressor 2
53	Dri-Mod resettingC2	Drive module resetting of compressor 2
54	Comp-Over-currentC2	Over-current of compressor 2
55	Current circuit SEC2	Current sensing circuit error or current sensor error of compressor 2
56	DesynchronizingC2	Desynchronizing of compressor 2
57	Comp-Dri-Comm-EC2	Communication error to the drive of compressor 2
58	HS-IPM-PFC over-TC2	Heat sink or IPM or PFC overtemperature of compressor 2
59	HS-IPM-PFC SEC2	Heat sink or IPM or PFC temperature sensor error of compressor 2
60	Charging circuit-EC2	Charging circuit error of compressor 2
61	DC under-voltageF1	DC busbar under-voltage or voltage drop error of fan 1
62	DC over-voltageF1	DC busbar over-voltage or voltage drop error of fan 1
63	IPM errorF1	IPM failure of fan 1
64	Startup failureF1	Startup failure of fan 1

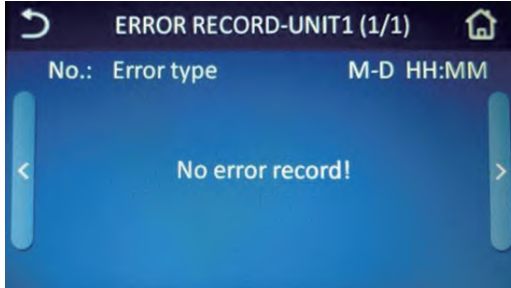


No.	Displayed name	Full name
65	Dri-Mod resettingF1	Drive module resetting of fan 1
66	Fan-Over-currentF1	Over-current of fan 1
67	Current circuit SEF1	Current sensing circuit error or current sensor error of fan 1
68	DesynchronizingF1	Desynchronizing of fan 1
69	Fan-Dri-Comm-EF1	Communication error to the drive of fan 1
70	HS-IPM-PFC over-TF1	Heat sink or IPM or PFC overtemperature of fan 1
71	HS-IPM-PFC SEF1	Heat sink or IPM or PFC temperature sensor error of fan 1
72	Charging circuit-EF1	Charging circuit error of fan 1
73	DC under-voltageF2	DC busbar under-voltage or voltage drop error of fan 2
74	DC over-voltageF2	DC busbar over-voltage or voltage drop error of fan 2
75	IPM errorF2	IPM failure of fan 2
76	Startup failureF2	Startup failure of fan 2
77	Dri-Mod resettingF2	Drive module resetting of fan 2
78	Fan-Over-currentF2	Over-current of fan 2
79	Current circuit SEF2	Current sensing circuit error or current sensor error of fan 2
80	DesynchronizingF2	Desynchronizing of fan 1
81	Fan-Dri-Comm-EF2	Communication error to the drive of fan 2
82	HS-IPM-PFC over-TF2	Heat sink or IPM or PFC overtemperature of fan 2
83	HS-IPM-PFC SEF2	Heat sink or IPM or PFC temperature sensor error of fan 2
84	Charging circuit-EF2	Charging circuit error of fan 2
85	DC under-voltageWP1	DC busbar under-voltage or voltage drop error of pump 1
86	DC over-voltageWP1	DC busbar over-voltage or voltage drop error of water pump 1
87	IPM errorWP1	IPM failure of water pump 1
88	Startup failureWP1	Startup failure of water pump 1
89	Dri-Mod resettingWP1	Drive module resetting of water pump 1
90	Over-currentWP1	Over-current of water pump 1
91	Current circuit SEWP1	Current sensing circuit error or current sensor error of water pump 1
92	DesynchronizingWP1	Desynchronizing of water pump 1
93	Dri-Comm-EWP1	Communication error to the drive of water pump 1
94	HS-IPM-PFC over-TWP1	Heat sink or IPM or PFC over-temperature of water pump 1
95	HS-IPM-PFC SEWP1	Heat sink or IPM or PFC temperature sensor error of water pump 1
96	Charging circuit-EWP1	Charging circuit error of water pump 1
97	Commu-E WP1	Communication error of the drive board of water pumps
98	Plate-H-E outlet TSE1	Outlet temperature sensor 1 of plate heat exchangers

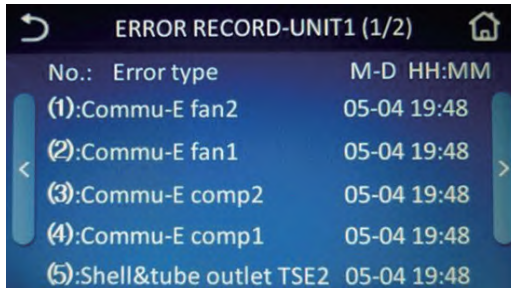
No.	Displayed name	Full name
99	Plate-H-E outlet TSE2	Outlet temperature sensor 2 of plate heat exchangers
100	Plate-H-E inlet TSE1	Inlet temperature sensor 1 of plate heat exchangers
101	Plate-H-E inlet TSE2	Inlet temperature sensor 2 of plate heat exchangers

## (4) Error records

By touching “**Error record**”, the controller will access the current error record page.

**[Notes]**

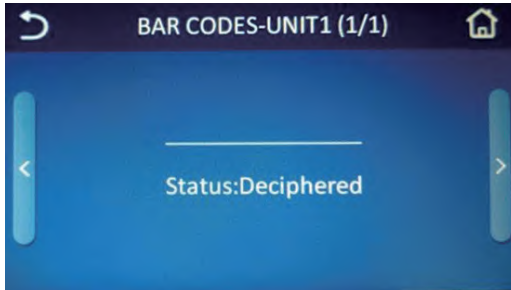
Each error record includes the error number, error name, month, day, hour, and minute. The latest error lists in the top.



At most 10 pieces of error records can be saved for each unit. When it exceeds 10, the earlier ones will be deleted, which will not affect the error records of any other units.

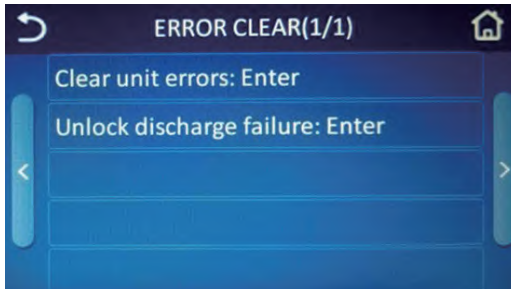
(5) Bar codes

By touching "**Bar code**", it will go to the bar codes page, as shown in the figure below.



## 2.5 E-clear

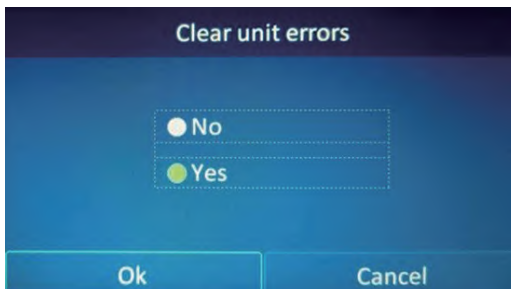
At the menu page, touching "**E-clear**", it will access the error clear page. At this page, it is able to operate error clearing and discharge failure unlocking.



Clear unit errors

At the ERROR CLEAR page, by touching "**Clear unit errors**", the control panel will access the page as shown below. Then, by selecting "**Yes**" and "**Ok**", this operation will succeed and go back to the ERROR CLEAR page.

At the ERROR CLEAR page, by touching "**Unlock discharge failure**", the control panel will access the page as shown below. Then, by selecting "**Yes**" and "**Ok**", the discharge failure will be unlocked; or by selecting "**Cancel**", this operation will quit and go back to the ERROR CLEAR page.



**[Notes]**

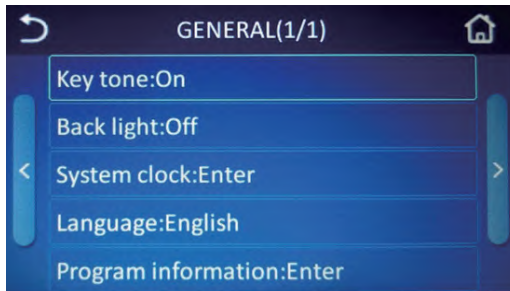
- (a) When touching “Yes” and then “Ok”, this operation will succeed.
- (b) When touching “No” or “Cancel”, this operation will quit and the unit will do not do any operation.
- (c) After this operation, all recovered errors for all on-line units will be cleared; for those unrecovered, there will still be alerts.

**[Notes]**

When the error of discharge failure has been eliminated, this setting can unlock the discharge failure and the corresponding locked unit can be restarted.

**2.6 General**

At the function setting page, by touching “GENERAL”, the control panel will go to the corresponding setting page, where system clock, key tone and backlight and other general functions can be set, as shown in the figure below.

**General page 1**

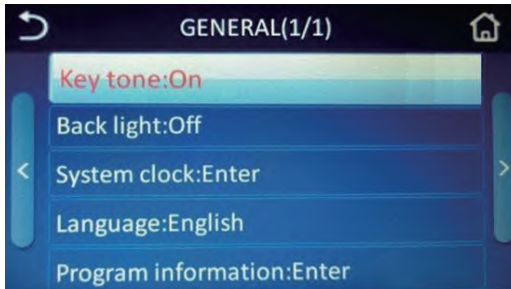
No.	Function	Option	Default	Remarks
1	Key tone	On/Off	On	/
2	Back light	On/Off	Off	“On” indicates the controller will always light on. “Off” indicates that when it is detected that there is no any operation in five minutes the controller will light off.
3	System clock	System clock	/	/
4	Language	English/Italian/...	English	/
5	Program information	Enter	/	/

**[Notes]**

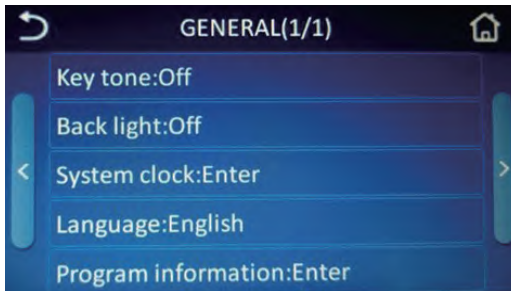
The language option provided by the actual controller always prevails.

(1) Key tone

At the function setting page, by touching “GENERAL”, the control panel will go to the corresponding setting page. Then, by touching “Key tone”, it can be set to “On” or “Off”, as shown in the figure below.



General page with activated key tone



General page with deactivated key tone

(2) Backlight

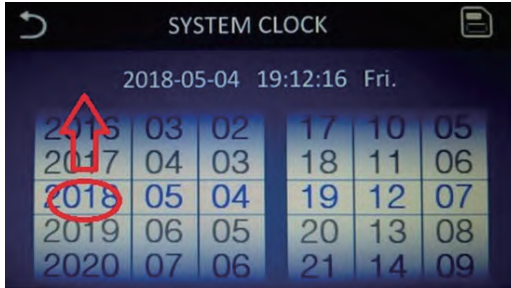
Refer to Section 1.4

(3) System clock

At the function setting page, by touching “GENERAL”, the control panel will go to the corresponding setting page. Then, by touching “System clock”, the controller will access the system clock setting page, as shown in the figure below.



The setting value for the system clock can be changed by the sliding the blue digits. Then, by touching the saving icon, this setting will be saved and rightly take effective. While, by touching the back icon, this setting will not be saved and the controller will back to the general setting page.



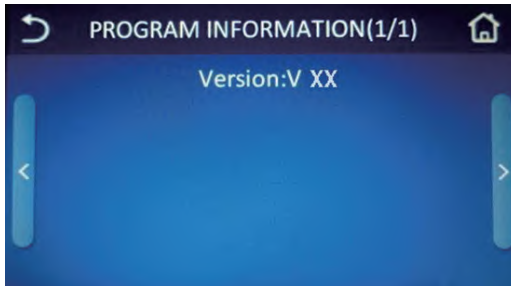
#### (4) Language setting

At the function setting page, by touching "**GENERAL**", the control panel will go to the corresponding setting page. Then, by touching "**Language**", the controller will access the language setting page.

Select the desired language. Then, by touching "**Ok**", this setting will be saved and take effective; while by touching "**Cancel**", this setting will not be saved and the controller will back to the general setting page.

#### (5) Program information

At the function setting page, by touching "**GENERAL**", the control panel will go to the corresponding setting page. Then, by touching "**Program information**", the controller will access the program checking page, as shown in the figure below.



#### [Notes]

"**Version**" indicates the program version for the control panel.





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