User manual

RCW35

EN



26.AW.RCW35.UM.EN.24.07

Read this manual carefully before using the product, and keep it for future reference.
All the pictures in this manual are for illustration purposes only.
The screen of the wired controller is with seven touch keys instead of a touchscreen.

Contents

1. GENERAL SAFTY PRECAUTIONS 5
   1.1. Sefety Signs 5
   1.2. Notice to users 5
2. FIRST START UP 8
3. RESTORE INITIALIZATION 9
4. USER INTERFACE 10
   4.1. Names and functions 10
   4.2. Interface layout 11
5. FUNCTION INTRODUCTION 12
   5.1. Screen Lock/Unlock 12
   5.2. Unit ON/OFF 12
   5.3. Mode setting 14
   5.4. Menu setting 15
   5.5. User menu 16
      5.5.1. State query 16
      5.5.2. Timer setting 18
      5.5.3. General setting 22
      5.5.4. Double Setpoint 22

5.5.5. Snow-Blowing switch 23
5.5.6. Silent mode 24
5.5.7. DHW SWITCH 25
5.5.8. Water Coil Control 26
5.6. Service menu setting 27
5.7. Project menu setting 27
5.8. Power failure memory function 27
5.9. Parallel function of wired controller 28
5.9.2. Parallel function by XYE 28
5.10. Upper computer communication function 29
5.11. Monitor wired controller function 29

1. GENERAL SAFTY PRECAUTIONS

- This document is applicable only to the wired controller. Read this document and follow the instructions carefully before operating the wired controller.
- Always observe all the operating instructions.
- Hand these instructions and all other applicable documents to the end user.

WARNING

Follow the safety precautions in the INSTALLATION MANUAL for the correct use of the heat pump unit.

1.1. Sefety Signs

Action-related warnings in the document:

WARNING

It indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

NOTE

Additional information.

1.2. Notice to users

If you are not sure how to operate the unit, contact your installer.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge provided that they have been given supervision or



instruction concerning the use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and maintenance shall not be made by children without supervision.

The unit is marked with the following symbol:

This means that electrical and electronic products may not be mixed with unsorted household waste. Do not try to dismantle the system yourself. The dismantling of the system and the treatment of the refrigerant, oil and other parts must be done by an authorized installer and must comply with applicable legislation.

The unit must be treated at a specialized treatment facility for reuse, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. For more information, contact your installer or local authority.

Working conditions of the wired controller.

Input voltage	12V DC
Operating temperature	-20 to 60°C
Humidity	≤RH90%

WARNING AND TROUBBLESHOOTING OF NETWORKING

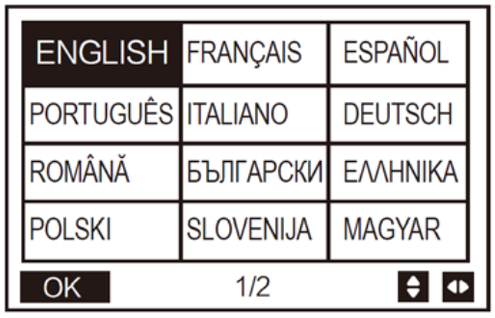
When connecting the product to a network, please keep the product as close to your phone as possible.

- At present, the product only supports 2.4 GHz band routers.
- Special characters, such as punctuation and space, are not recommended as a part of the WLAN name.
- The number of devices connecting to the same router should not exceed 10. Otherwise, the devices may be disconnected due to unstable signals.
- If the password of the router or WLAN is changed, clear all settings and reset the appliance.
- The contents of APP might change in version updates and actual operation shall prevail.

WIFI information :
WIFI transmission frequency range: 2.400~2.4835 GHz
EIRP ≤ 20 dBm

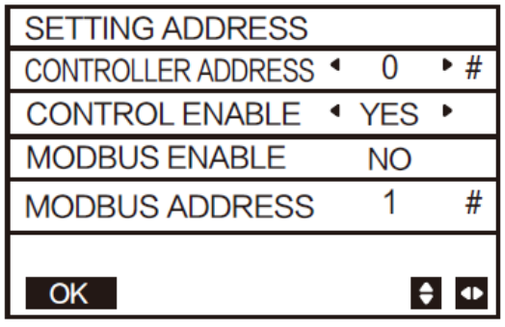
2. FIRST START UP

When the controller is powered on for the first time, the following page appears on the screen.
The user needs to press "▲" "▼" "◀" "▶" to select the display language and click "↵".

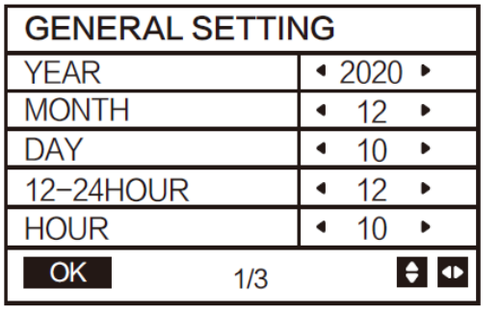


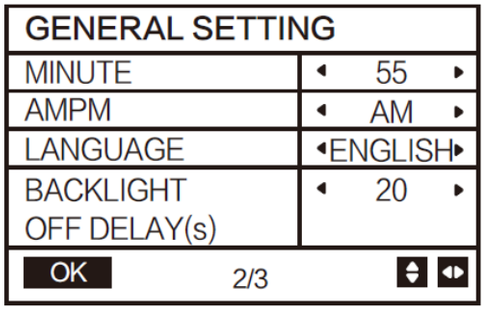


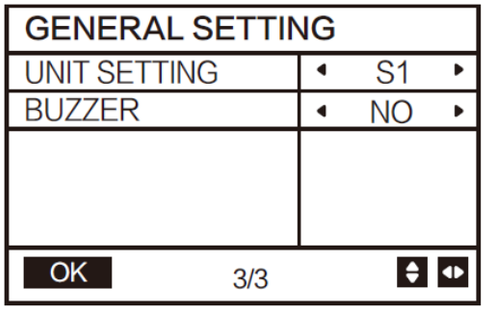
After the language setting is completed, select "YES", and then click "↵" to enter the SETTING ADDRESS interface.



After setting SETTING ADDRESS, click "↵" to enter GENERAL SETTING. Then after setting GENERAL SETTING, click "↵".



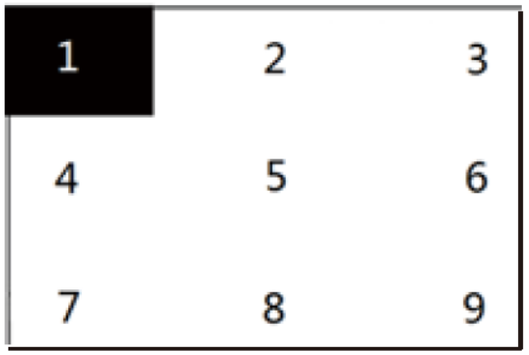




3. RESTORE INITIALIZATION

If the user accidentally sets the display language of the wired controller to a language that the user does not know, the following three steps can be used to restore the wired controller to the factory setting and reset the display language:

- Power off the wireline controller and power it on again. Press and hold + + to enter the following page within 60 seconds.



- Press the buttons from left to right, from top to bottom, click ->▲ -> ->... Turn on 1, 2, 3, 4, 5, 6, 7, 8 and 9, wait for 100 % initialization, and enter the FCT page. After entering the FCT page, the version number is displayed. All set parameters of the equipment are reset to the default parameters, and saved. The timing settings and fault records are cleared. The equipment returns to the factory state. (exit FCT after power on again).

- Follow the steps of first power-on setting of the wired controller.

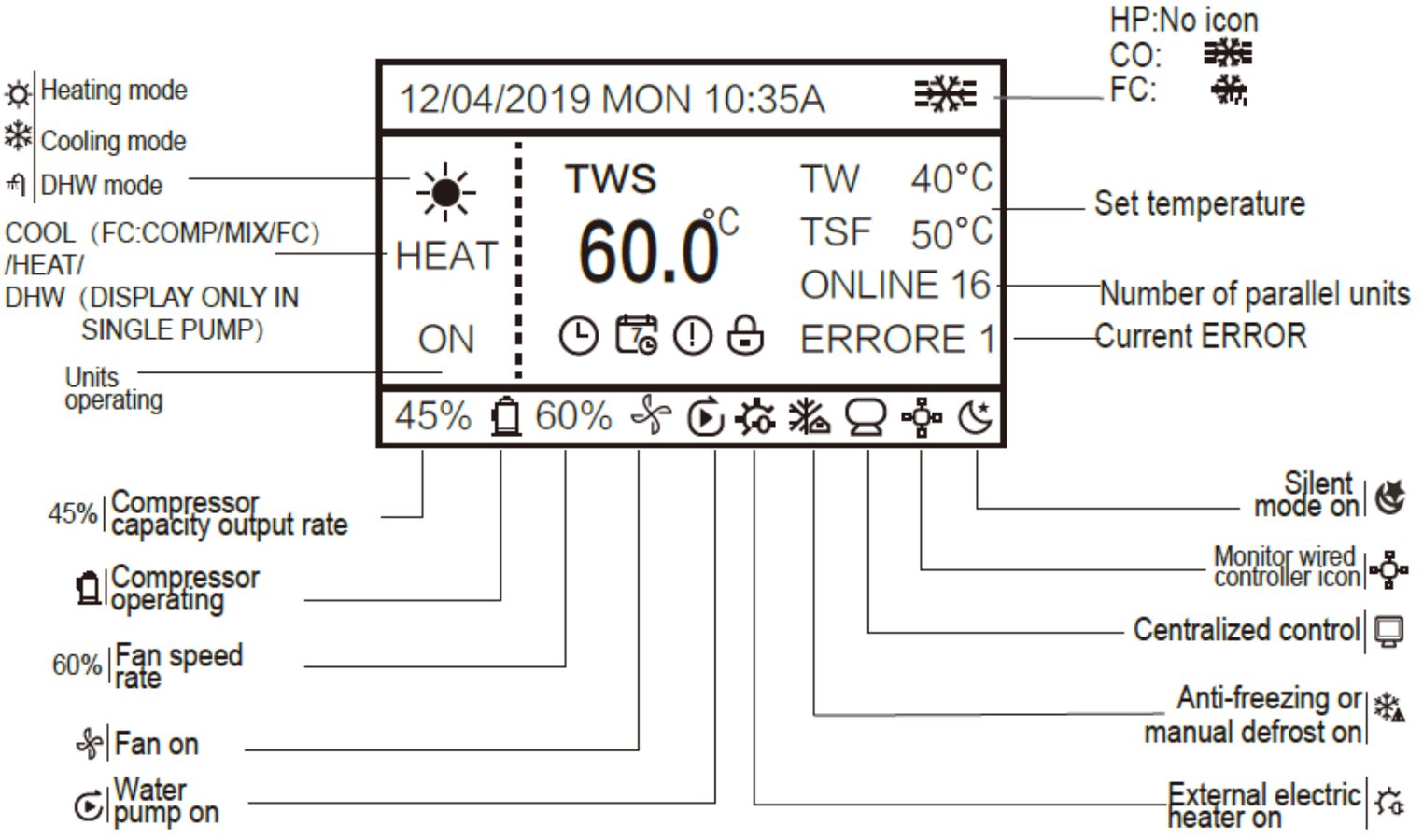
4. USER INTERFACE

4.1. Names and functions



Icon	Name	Definition
	Menu	Enter the menu structure from the home page
	Confirm	Go to the next step when programming a schedule in the menu structure / confirm a selection/enter a submenu in the menu structure
	ON/OFF	Turn on or off the space operation mode
	Unlock	Long press for unlocking /locking the controller
		Come back to the up level
∧ ∨ < >	Navigation: upward, downward leftward, rightward	Press to navigate the cursor to adjust settings (holding it for 1 second can start quick adjustment)

4.2. Interface layout



TWS/T5S: setting temperature
TW: total outlet water temperature
T5: tank temperature
TSF: safe temperature

	DAILY TIMER / WEEKLY SCHEDULE / ERROR / LOCK

5. FUNCTION INTRODUCTION

Power on for the first time or restore factory settings, you need to preset: SETTING ADDRESS and GENERAL SETTING. Click "↵" after setting. Please follow the interface prompts.

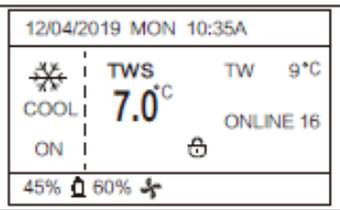
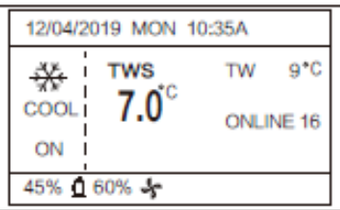
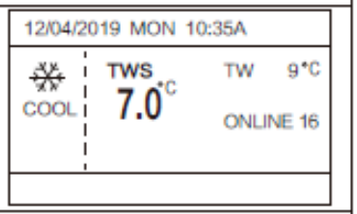
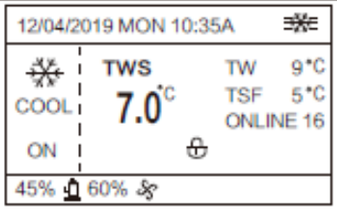
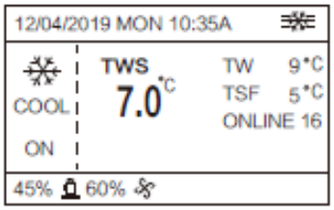
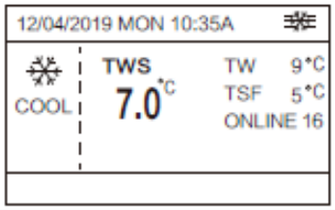
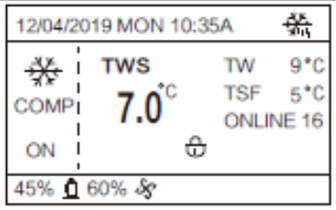
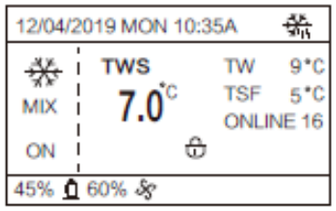
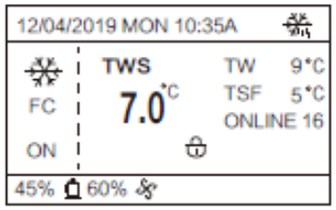
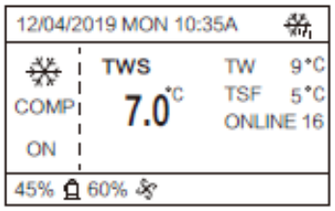
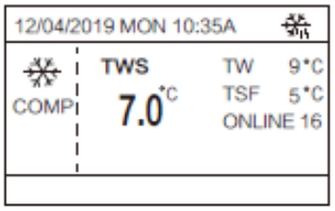
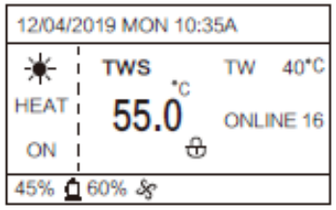
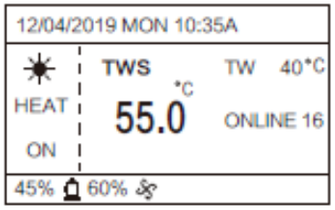
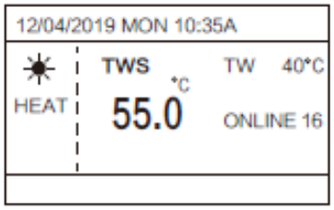
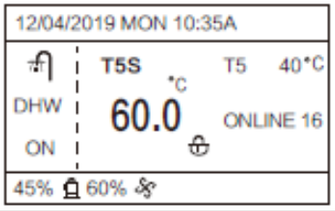
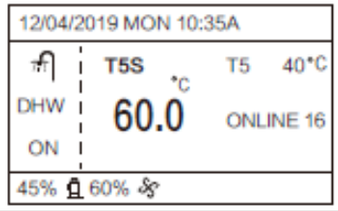
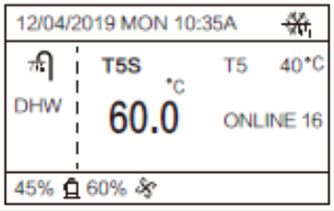
5.1. Screen Lock/Unlock

When the wired controller is locked, press and hold the "🔓" button for 3 s to unlock it. Then the lock icon is not displayed and the wired controller can be operated.

When the wired controller is unlocked. press and hold the "🔓" button for 3 s to unlock it. Then the lock icon is displayed and the wired controller cannot be operated. When there is no operation for continuous 60 s on any page, the wired controller returns to the home page and automatically locks, displaying the lock icon.

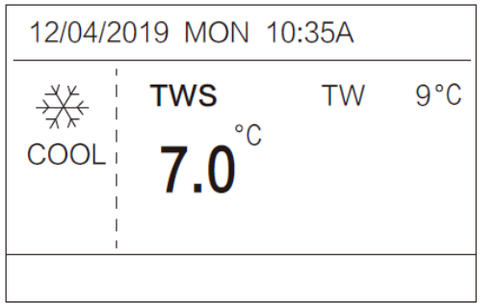
5.2. Unit ON/OFF

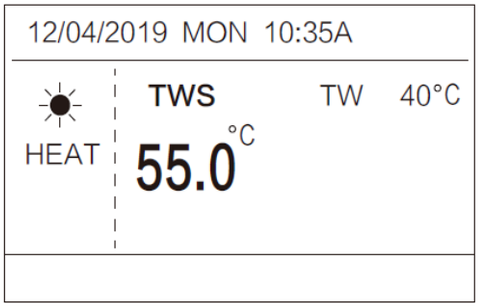
When the wired controller is unlocked and the unit is on, "⏻"can be pressed to power off the unit under the home page only. And it can be pressed to power on the unit when the unit is off.
In the unlocked state, the set temperature can be adjusted by pressing " ▲ " " ▼ " button. And you need to Press "↵" button to confirm after setting. It's invalid without confirmation within 5 s.

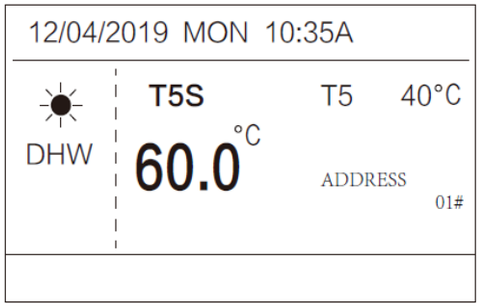
	LOCK	UNLOCK: ON	UNLOCK: OFF
HP-COOLING			
CO-COOLING			
FC-COOLING	  		
HP-HEATING			
HP-HOT WATER			

5.3. Mode setting

In Unlock mode, Press "☰" button to enter the menu setting interface, Press "▼" and "▲" buttons to select "MODE" and set a mode, and Press "↵" button as shown in the above figure to access the submenu (mode setting). As shown below: three modes available.







Cycle: Cooling-->Heating-->DHW-->Cooling. Skip the mode cycle when there is no corresponding mode. The DHW mode is divided into single pump (no need to select the address) and multiple pumps (need to select address 00-15, and the address of the unit without DHW function is directly skipped).

Only Tws/T5 s and address can be set in cooling, heating and DHW mode. Tw/T5 can only be displayed but not be set. DHW can only be power on/off under the MODE setting. The detailed steps are as follows: Enable the DHW function from Service Menu-->Enable the DHW from User Menu-->Define the Priority of DHW from User-->Activate the DHW function from Mode Menu.

HP-Cooling setting range lower limit is subject to the low water outlet control setting under SERVICE MENU. CO/FC-Cooling setting range lower limit is subject to the lowest outlet water temperature set by antifreeze ratio under PROJECT MENU.

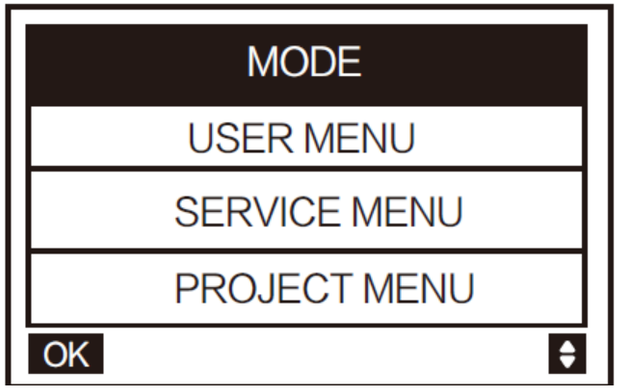
NOTE

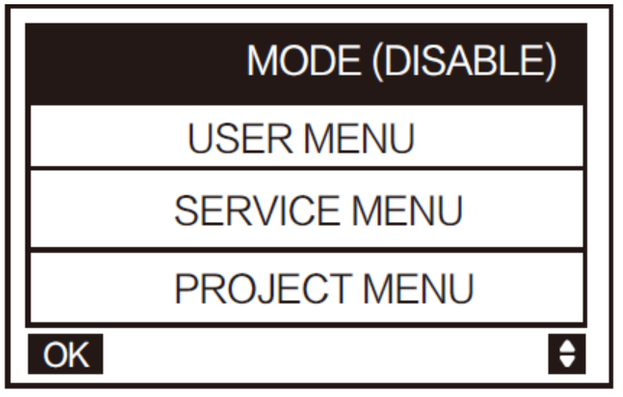
When Tsafe is set below 5 ° C /41 ° F, antifreeze must be added to the antifreeze system and the following requirements must be met:
Use 30 % ethylene glycol antifreeze system or other antifreeze system similar to the freezing point;
The freezing point temperature of the antifreeze solution must be less than the coldest local temperature minus 5.5 °C /9.9 °F

Press "↵" to save the settings after setting and back to homepage. Or press "⮌" to back. When there is no operation for continuous 60 s, it will save the settings and back to homepage.

5.4. Menu setting

When the wired controller is unlocked, press"☰" to enter menu setting page as follows:





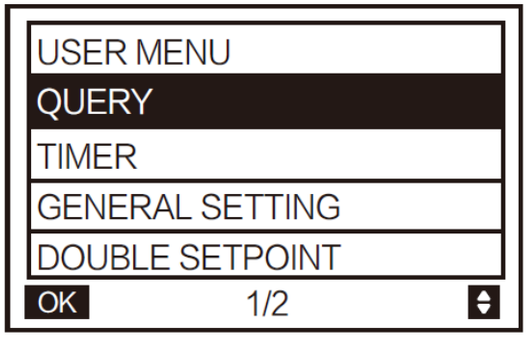
The default selection is "MODE" and choose the menu you need by pressing "▲▼" . Press "↵" to enter its submenu or back to homeage by "↩". Back to homepage if there is no operation for 60 s under menu page.

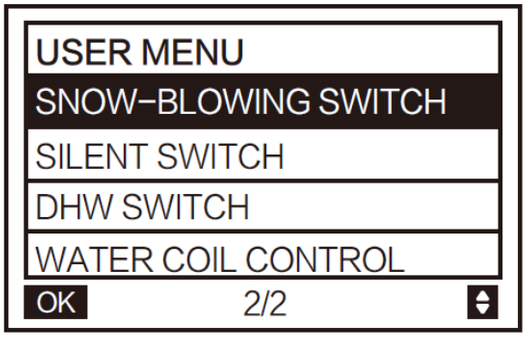
NOTE

The mode menu is invalid when the unit is controlled by modbus or host computer and display as above.

5.5. User menu

Select "USER MENU" to enter the user menu. The interface display is as follows:

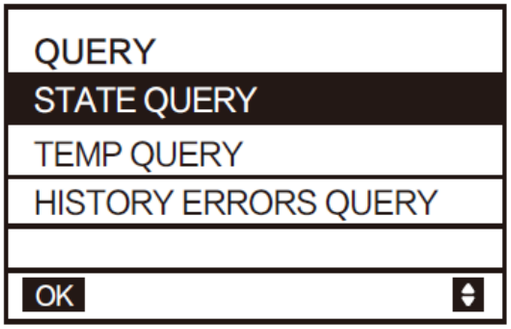




Users choose functions by "▲▼".

5.5.1. State query

Select "QUERY" in the "USER MENU" interface to access the query function. The interface display and operation are as follows:



State query :

Select "STATE QUERY" and press "↵". Display as follows:

STATE QUERY	
SELECT ADDESS	◂ 11 ▸ #
OPERATION STATE	STANDBY
RUNNING MODE	COOL
CURREN SLIENT MODE	NIGHT SILENT1
BACK	◂▸

Select address by pressing "◄" , "►" to view the status of the unit at that address.
Back to upper menu by "⮌".

Temp query :

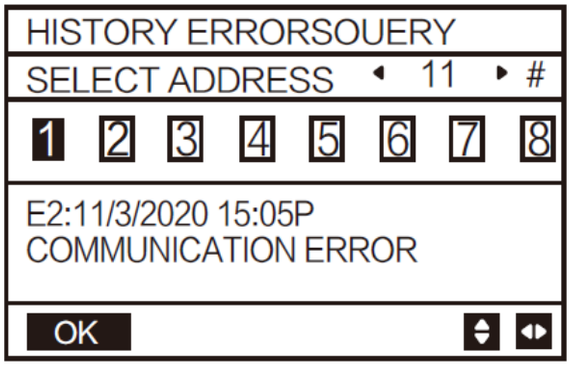
Select "TEMP QUERY" and press"↵". Display as follows:

TEMP QUERY	
SELECT ADDESS	◂ 11 ▸ #
INLET WATER TEMP	25℃
OUTLET WATER TEMP	25℃
TOTAL OUTWATER TEMP	25℃
AMBIENT TEMP	25℃
BACK	◂▸

Select address by pressing "◄", "►" to view the temperature of the unit at that address. Back to upper menu by "⮌".

History errors query :

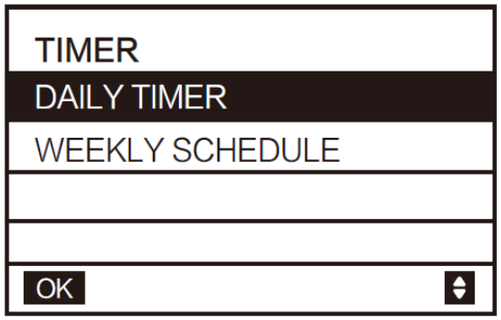
Select "HISTORY ERRORS QUERY" and press"↵". Display as follows:

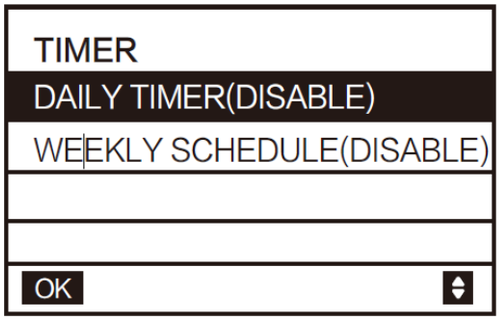


Select address by pressing "◄", " ►"to view the history errors of the unit at that address. Press "▲" "▼" to choose the history error that you want and the number of errors that can be viewed is 16.

5.5.2. Timer setting

Select “TIMER” and press"↵". Display as follows:





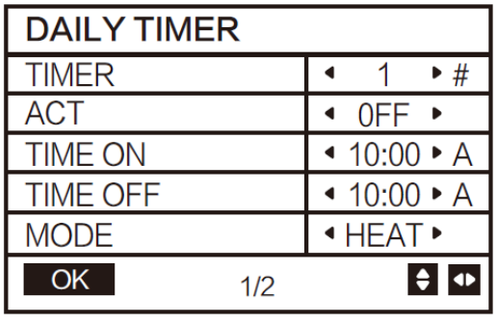
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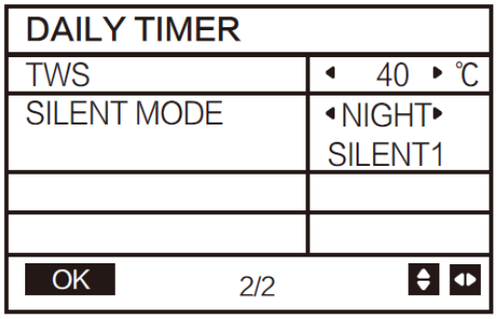
After MODBUS control and the remote control of the external machine are used, the daily and weekly time settings of the wired controller are invalid, and users cannot enter the timing menu for setting.

When MODBUS control and the remote control of the external machine are invalid.

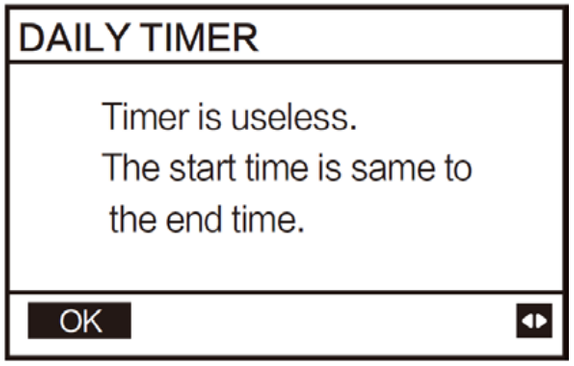
Daily timer:

Select "DAILY TIMER" and press "↵". Display as follows:





Only one setting is enabled between "DAILY TIMER" and "WEEKLY SCHEDULE".
If any of the pattern in "WEEKLY SCHEDULE" is set to ON, "DAILY TIMER" is disabled. "DAILY TIMER" can be set across days, but "WEEKLY SCHEDULE" can't. Users can set up to two timers, and set the ON or OFF time (set the interval of time to 10 minutes), operation mode(there are heating, cooling and DHW modes for single pump; only cooling and heating modes can be selected for multiple pumps, and it cannot be set as DHW mode) and temperature setting for each segment of timer. It's invalid if the ON and OFF time are same. Display as follows:



Press "▲" "▼" to select TIMER, ACT, TIME ON, TIME OFF, MODE, TWS or SILENT MODE. When the cursor stays at “TIMER ”, press "◄" and "►" to select "TIMER 1" or "TIMER 2".

When it stays at other items, we can also use " ◄", " ►"to adjust corresponding settings. After setting, press " " to confirm saving, or press " " to cancel setting and return to the previous interface.

If Time1 T.ON is set the same as Time1 T.OFF, then the setting is invalid, the ACT option for the timer of this segment jumps to "OFF", the setting of Timer2 is the same as that of Timer1, and the timing interval of Time2 can cross with that of Time1.

For example :

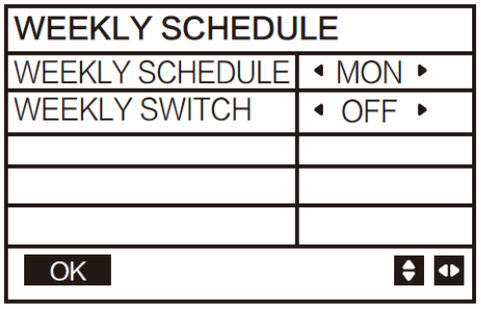
If Timer1 T.ON is set to 12:00 and Timer1 T.OFF is set to 15:00, then the values of Timer2 T.ON and Time2 T.OFF can be set in the range of 12:00-15:00. If the time interval crosses, the machine will be powered on at the time T.ON which is set in Timer1 or Timer2, and will be powered off at the time T.OFF which is set in Timer1 or Timer2.

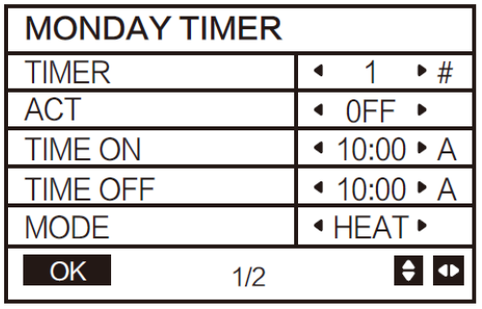
After the daily timer function setting is enabled, there will be corresponding prompts displayed on the homepage.

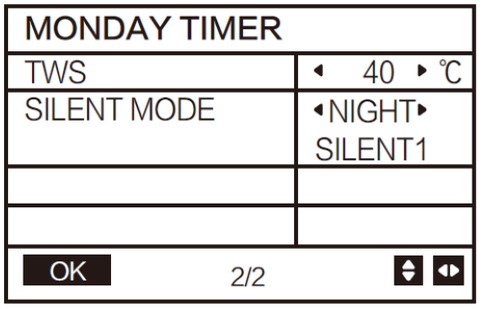
When two timers overlap, the second setting takes precedence.

Weekly timer:

Select "WEEKLY SCHEDULE" and press "↵". Display as follows:







Press "▲" and "▼" buttons to select "WEEKLY SCHEDULE" or "WEEKLY SWITCH". And press "◄"or" ►"buttons to select Monday to Sunday.

After changing a setting, you need to press "↵" to confirm or enter the submenu.

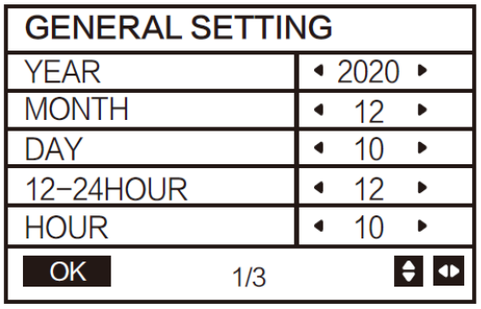
For "WEEKLY SWITCH", "OFF" means not to set the timing for this day or cancel the set timing.
When change to "ON" and confirm, you will enter the day timer.

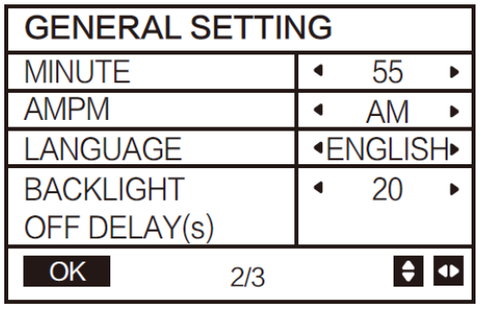
The operation is the same as the day timer.
The page refers to the day timer.
The top displays the set day and Timer 1 or Timer 2 for that day.

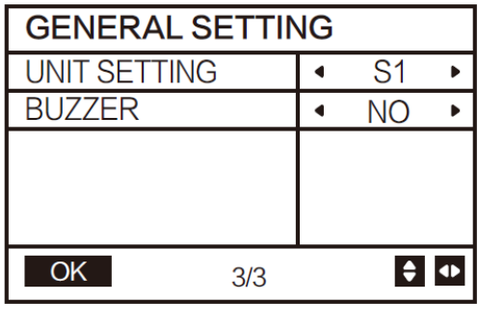
There can be up to 2 timings in a day of weekly timing, and each timing needs to be set on and off time (set interval is 10 minutes).

5.5.3. General setting

Select "GENERAL SETTING" and press"↵". Display as follows:



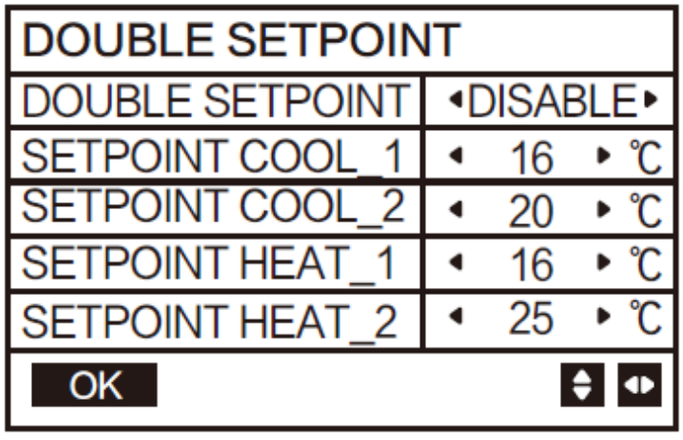




Press "▲" and "▼" to select the date, time, time format, language, unit setting and buzzer to be set. Adjust their parameters by "◄" or "►", and press " " to save. The backlight time setting range is 10-1200 s, the default is 60 s, and each adjustment is 10 s.
Back to previous page by " " after setting.

5.5.4. Double Setpoint

Select "DOUBLE SETPOINT" and press"↵". Display as follows:

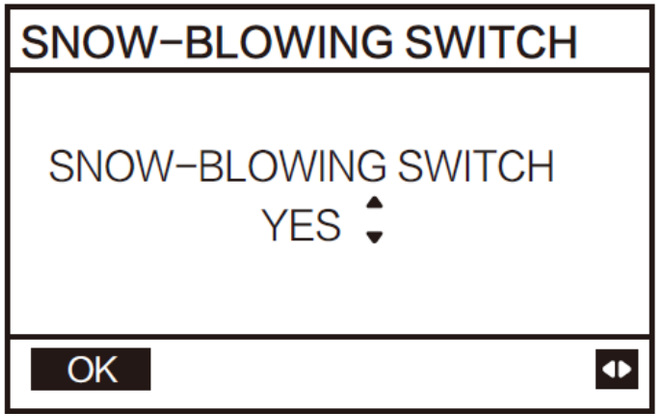


Press "▲" and "▼" to select items and " ◄ " or " ►" to adjust parameters.
The lower limit of the set range of HP refrigeration is subject to the low water outlet control set under SERVICE MENU, and the lower limit set for CO/FC

refrigeration is subject to the minimum water outlet set under the antifreeze ratio set under PROJECT MENU.

5.5.5. Snow-Blowing switch

Select "SNOW-BLOWING SWITCH" under "USER MENU" page and press "↵". Display as follows:



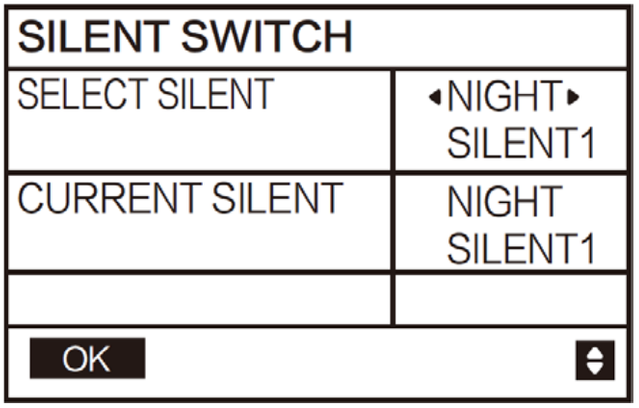
Press "▲" and "▼" to select "YES" or "NO" and press"↵" to confirm. "YES" means the function is valid, "NO" means invalid.

NOTE

Some models do not have this function. Please refer to the instructions of the outdoor machine for whether they have anti-snow control function.

5.5.6. Silent mode

Select “SILENT SWITCH” and press"↵". Display as follows:



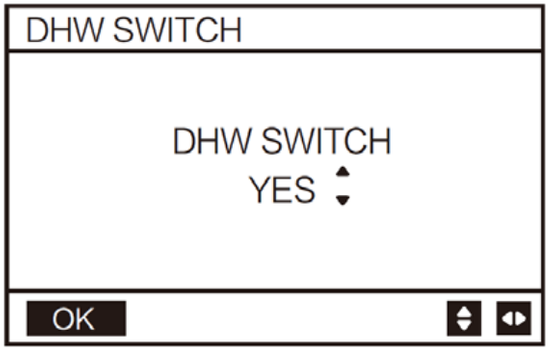
Press "▲" and "▼" to select "SELECT SILENT ", press" ◄ "or " ►"to select the mode you need (7 types: NIGHT SILENT1-4, STANDARD, SILENT and SUPER SILENT), and press "↵" to save.

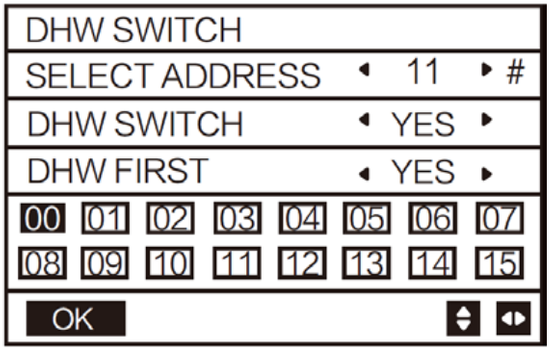
Users can check whether it is the mode they want here and press "⮌" to back if there is no problem. Once the silent mode turned on, in homepage light up.

NIGHT SILENT 1	6/10h
NIGHT SILENT 2	6/12h
NIGHT SILENT 3	8/10h
NIGHT SILENT 4	8/12h

5.5.7. DHW SWITCH

Press "▲" and "▼" to select "DHW SWITCH" under "USER MENU" page and press "↵" . Display as follows for single heat pump mode or multiple heat pumps mode:





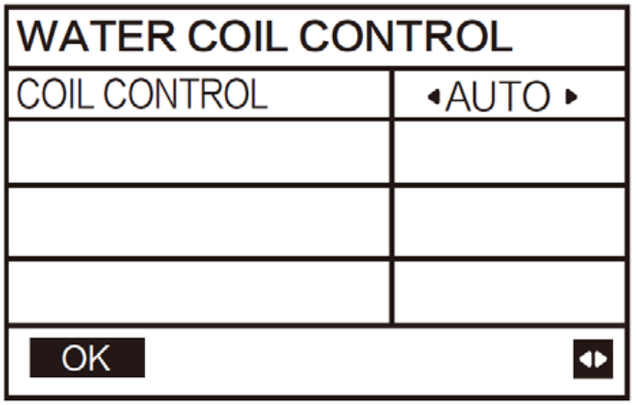
Press "▲" and "▼" to switch between SELECT ADDRESS, DHW SWITCH and DHW FIRST. Then press"◄ "or "►"to adjust parameters.
Only when DHW SWITCH selects YES, the following can be set.

NOTE

DHW SWITCH is only available for custom made DHW models. DHW SWITCH is displayed only when enable the DHW function from Service Menu > Water Coil Control.

5.5.8. Water Coil Control

Press "▲" and "▼" to select "WATER COIL CONTROL" and press "↵".
Display as follows for single heat pump mode or multiple heat pumps mode:



Press "▲" and "▼" to select "COIL CONTROL" and press "◄" or " ►" to select control mode: AUTO (automatically control), MANUALON (with water coil), MANUALOFF (without water coil). Press "↵" to save.
Press "⮌" to exit this page.

NOTE

Water Coil Control is only applicable to FC models.

5.6. Service menu setting

Please refer to the installation manual.

5.7. Project menu setting

Please refer to the installation manual.

5.8. Power failure memory function

The power supply to the system fails unexpectedly during operation.

When the system is powered on again, the wired controller continues to operate according to the status before the last power failure, including the power-on/off status, mode, set temperature, failure, protection, wired controller address, timer, hysteresis, etc.

However, the memorized content must be the content set at least 7s before the power failure.

5.9. Parallel function of wired controller

5.9.1. Parallel function by MODBUS

1) A maximum of 16 wired controllers can be connected in parallel, and the address can be set in the range of 0 to 15.
2) After multiple wired controllers are connected in parallel, data is shared among them, e.g., the power-on/off function, data settings (such as the water temperature and hysteresis) and other parameters will be kept consistent.

NOTE

The mode, temperature, and hysteresis settings can be shared only when the system is powered on.

3) Start point of data sharing: After the power-on/off button is pressed, data can be shared during parameter adjustment. The " " button must be pressed after parameters are adjusted, and the finally adjusted values will be shared.
4) Since the bus is processed in the polling mode, the data of the wired controller which is set last is valid if multiple wired controllers are operated at the same time in the same bus cycle (4s). Avoid the above situation during operation.
5) After any one of parallel wired controllers has been reset, the address of this wired defaults no address and needs to be set manually in order to enter into normal communication.

5.9.2. Parallel function by XYE

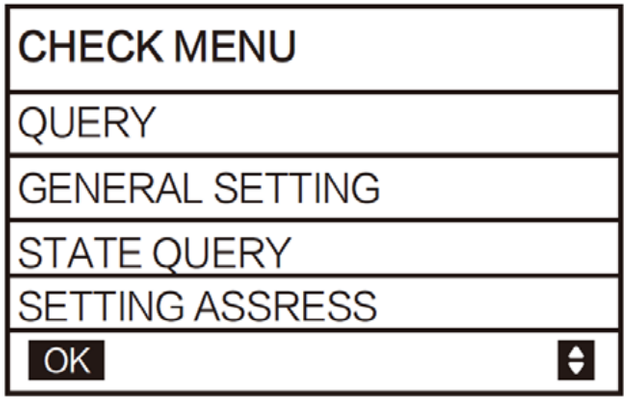
1) A maximum of 16 wired controllers can be connected in parallel.
2) The wired controller need to set to control/monitor controller.
The former has control functions, while the latter has only viewing functions.

5.10. Upper computer communication function

1) When communicating with the upper computer, the homepage displays: Communication between the wired controller and the upper compute.
2) If the outdoor main control board is in the remote ON/OFF control mode and the wired controller icon flash. At this point, the upper computer network control setting line control mode switch machine is invalid.

5.11. Monitor wired controller function

When the wired controller is set to monitor wired controller, press the "" to enter the following query interface and related settings of the controller.





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