EVI Inverter Heat Pump
Wire Controller Operation Manual
With Wifi Control

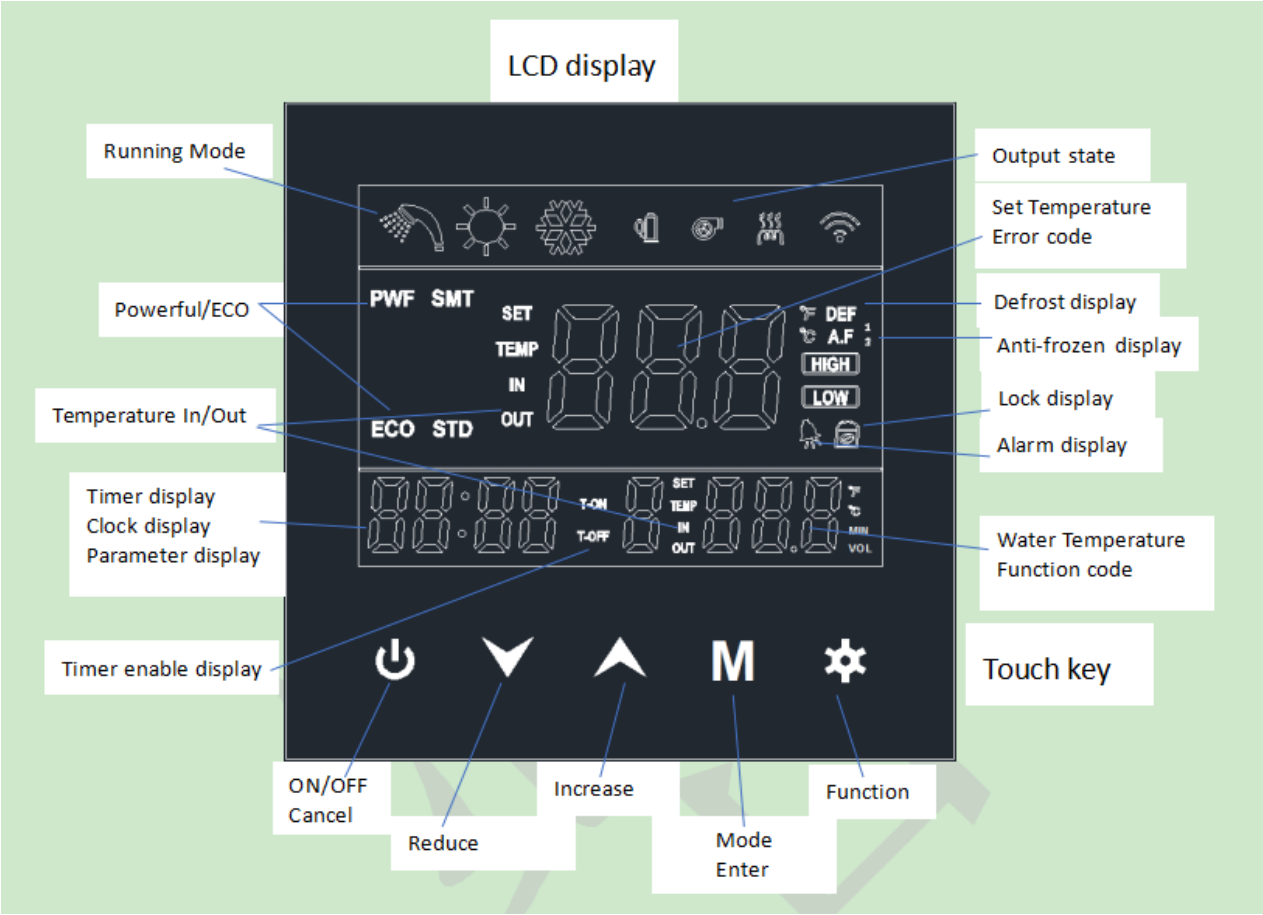
Compile	Review	Authorize
Haoran Pan	Jianhai Wong	Xuzhuan Hua

Revision History

Version	Date	Changes
V1.0	2019-12-03	First edition

Section 1

Controller Panel



1. Display Icon

Mode	Meaning		Key Picture	Meaning
	Heating mode		STD	Standard

	Hot water mode			ECO
	Cooling mode			Powerful
	Heating and Hot water Mode(Hot water function is priority)			ON/OFF key
	Cooling and Hot water Mode(Hot water function is priority)			UP key
	Compressor working			Down key
	Electric heater working			MODE/Confirm key
	Defrosting			Menu key
	Antifreezing			Timing key
	Error alarm			Defrost key, Long press this with 3 seconds, it will defrost
	Key locking			Lock key

2. ON/OFF and Working Mode

Light is on when power on.

Press “  ”to change different working mode.

Room heating will show“  ”

Room cooling will show“  ”

Domestic hot water will show “  ”

Press the "  " when the heat pump is off, the corresponding mode will flash, and it will turn off after 5 seconds.

Press “  ”, the heat pump will turn on, light the corresponding mode symbol,

and display relevant status information

Press “” again, the heat pump will turn off and the mode symbol will go out.

Power on and off, all data will be stored. With power off memory function.

3. Time Setting

If its not in the "query" or "set" state, press the “ + ”to enter the time setting. The time is adjusted as follows:

Clock (hours)→clock (minutes)

Press “” and “” to adjust the corresponding time value.

Press the “ ”to change “hours” and “minutes” At the same time save the adjusted value ,

Press“M”to save and exit.

30 seconds without any key press to exit automatically.

Press “”during setting, exit without saving.

4. ON/OFF Timer

If its not in the "query" or "set" state, long press “ + ” with 3seconds, enter the timing setting. Then press“” to adjust in the following order:

Period 1 turn on Hours →Period 1 turn on Minutes →Period 1 turn off Hours→Period 1 turn off Minutes

Period 2 turn on Hours →Period 2 turn on Minutes →Period 2 turn off Hours→Period 2 turn off Minutes

Period 3 turn on Hours →Period 3 turn on Minutes →Period 3 turn off Hours→Period 3 turn off Minutes

Press“" and "" to adjust the corresponding time value

When the time of timing on or timing off is set to “00:00”, it means that the timing on or timing off function is invalid .

Press “  ” during setting, exit without saving

After setting, Long press “  ” key for 3 seconds to enter the timer mode; Long press “  ”again for 3 seconds to exit the timer mode.。

5. Operation Mode Adjustment

At the state of power-on, press “  ” key, display controller modes are changed among “Normal”, “Query”, “Set”.

At the state of “Normal”, the display shows the setting temp on the top, and indicate “SET TEMP”, And it shows actual water temp at the key, and indicate “TEMP”.

If the controlled temp is outlet water temp, corresponding area indicate “OUT”. If the controlled temp is inlet water temp, corresponding area indicate “IN”. if the controlled temp is water tank temp, then the corresponding area doesn’t indicate “IN/OUT”.

At the state of “Query”:

a. In the middle of key, it shows “c”, at the right of key, it shows serial no. “XXX”, The “XXX” represents serial no.

b. Query parameters are displayed on the left 4 digits

At the state of “SET”

a. The character in the middle of key shows “d”, at the right of key, it shows serial no. “XXX”, the “XXX” represents serial no

b. The setting parameters are displayed on the left 4 digits.

If no press operation after entering into “SET” mode for 5 minutes, then exit automatically.

After entering into “Query” mode, no matter with/without operation, it doesn’t quit automatically. Only press “  ” to reselect operation mode.

At the state of “SET”, press “  ” to exit to the operating state

Section 2

1. Parameters Query

Press “  ” , enter into parameters query state, press “  " "  " to query status and parameters, Press “  ” again to exit the query status parameter status. Status or parameters are displayed showing at the clock.

***Parameters Status Query Table**

Code	Name	Description	Remark
c01	version no.	display version No.	-
c02	ambient temp.	display ambient temp, display Et1 in case of error	℃
c03	water tank temp	display water tank temp., display Et2 in case of error	℃
c04	outlet water temp.	display outlet water temp., display Et3 in case of error	℃
c05	inlet water temp.	display inlet water temp., display Et4 in case of error	℃
c06	evaporator coil temp	display evaporator coil temp., display Et5 in case of error	℃
c07	exhaust gas temp.	display exhaust gas temp., display Et6 in case of error	℃
c08	condenser coil temp (after throttling)	display condenser coil temp., display Et7 in case of error	℃
c09	suction temp	display suction temp., display Et8 in case of error	℃
c10	module temp	display module temp., display E24 in case of error	℃
c11	main valve opening degrees	display main valve opening degrees	
c12	auxiliary valve opening degrees	display auxiliary valve opening degrees	
c13	exhaust gas valve opening degrees	display exhaust gas valve opening degrees	
c14	Fan speed	display fan speed if available	RPM
c15	running frequency	display actual running frequency	HZ

c16	AC voltage	display input AC voltage	V
c17	DC voltage	display DC bus voltage (Rectifier bridge rectifier filtered voltage)	V
c18	current of whole unit	display input current	0.1A
c19	compressor current	display compressor output current	0.1A
c20	output power	display compressor output power	W
c21	EVI plate heat exchanger inlet sensor	display EVI plate heat exchanger inlet sensor temp.	℃
c22	EVI plate heat exchanger outlet sensor	display EVI plate heat exchanger outlet sensor temp.	℃
c23	low pressure	display low pressure value if available	kPa
c24	high pressure	display high pressure value if available	kPa
c25	error code	display the error code which happened last time. (see error code table)	
c26	limited frequency code	0: normal, 1: input current limit, 2: output current limit, 3: modular temp too high, 4: PWM overmodulation, 5: discharge gas, 6: overload/anti-freezing	
c27	LCD Controller version		
c28	MCU1 version		
c29	MCU2 version		
c30	MCU3 version		
c31	Error History	up to 3 historical error codes is available	

2. Parameters Set

Press "  ", and enter into parameter set status, press "  " "  " to

adjust parameter, press "M" and enter into set status, parameter flashes, press "M" again to save. Press "⚙" again to exit the parameter setting. The parameters are shown at the clock.

Code	Name	Definition	Default	Settable Range	Remark
d01	A01	Heating Temp Setting	45℃	20~60℃	
d02	A02	Heating Water Tank Temp Setting	50℃	20~60℃	
d03	A03	Cooling Temp Setting	12℃	5~35℃	
d04	A04	Restart Temp Difference	5℃	1~15 ℃	
d05	A05	Selection on Control basis	1	0 outlet water /1 inlet water /2 water tank	
d06	A06	Setting Temp of Electirc Heater	-15℃	(-30)℃~20℃	
d07	A07	Deviation Time of Electirc Heater Start	5	0~40min	
d08	A08	Evaporator coil Temp to enter into defrosting	-5℃	(-30)℃~3℃	
d09	A09	Evaporator coil Temp to exit defrosting	15℃	2℃~20℃	
d10	A10	Defrosting Cycle Period	50mins	25~200 mins	
d11	A11	Defrosting Time	10 mins	2~20 mins	
d12	A12	Selection on Control after temp is reached	0	0: not decrease frequency, 1: decrease frequency	
d13	A13	Ambient temp for Stopping and Starting machine	-40	(-40)℃~2℃	
d14	A14	Temp Difference of Inlet and	5	2℃~15℃	

		Outlet water for heat pump's water pump speed regulation			
d15	A15	Working Way of Water Pump	0	0: normally open, 1: Stop when temp is reached, 2: intermittently stop when temp is reached	

3. ECO, POWERFUL MODE Switch

Long press "  " , you can switch among ECO, POWERFUL, and light up the corresponding display symbol

4. Setting Temperature Change

In the "normal" display state, Client can use "  " "  " to set the related setting temperature as follows:

Heating mode: heating temperature setting can be adjustable ;

Hot water mode: hot water tank temperature setting can be adjustable;

Heating + hot water mode: heating temperature setting and hot water tank temperature setting can be adjustable , press "  " key(short press) to switch and adjust between two modes.

Section 3

Controller Error Codes

The following Common Error Codes for the heat pump units will be displayed on the controller panel:

Wire controller error code

Error Code	Definition of Error or Protection (with ***Trouble Shoot***)
Et1	ambient temp error (checking short/open failure of sensor(s))
Et2	water tank temp error (checking short/open failure of sensor(s))
Et3	outlet water temp error (checking short/open failure of sensor(s))
Et4	inlet water temp error (checking short/open failure of sensor(s))
Et5	outdoor coil temp error (checking short/open failure of sensor(s))
Et6	Exhaust gas temp error (checking short/open failure of sensor(s))
Et7	indoor coil temp error (checking short/open failure of sensor(s))
Et8	return gas temp error (checking short/open failure of sensor(s))
Et9	EVI plate heat exchanger inlet error (checking short/open failure of sensor(s))
EtA	EVI plate heat exchanger outlet error (checking short/open failure of sensor(s))
EPS	low pressure error (checking short/open failure of sensor(s))
EPd	high pressure error (checking short/open failure of sensor(s))
E00	wire controller and main PCB communication error (checking communication circuit and the power of each PCB)
E01	error of exhaust gas temperature too high (checking expansion valve/refrigeration system)
E02	high pressure error (checking refrigeration system)
E03	low pressure error (checking refrigeration system)
E04	water flow error (checking the water flow switch or the On/Off switch)
E05	outlet water temp too high protection (checking the outlet water temp. and water flow)
E06	outlet water temp too low protection (checking the outlet water temp. and water flow)
E07	inlet/outlet water temp difference too big protection (checking the inlet/outlet water temp. and water flow)
E08	Emergency shutdown of the system (including compressor overheat protection, fan over-current, water pump over-current error, etc) (checking whether K4 and K5 switch on or not)
E09	outer EEPROM error (power off restart after whole system power off completely, it should be broken if EEPROM still doesn't work)
E10	coil temp too high (checking the refrigeration and FAN)

E11	DC PEAK (checking whether the operation is overloaded. In normal load, the driver module is abnormal if repeated after power off restart)
E12	compressor drive error (checking whether the operation is overload)
E13	compressor over-current error (checking whether the operation is overload)
E14	lack of phase error (checking whether U, V, W are disconnected)
E15	IPM current sampling error (driver module is abnormal)
E16	Heat sink/Module temp. too high protection (checking cooling module, whether the operation is overload)
E17	emergency shutdown (including high pressure alarm, PFC error. EEPROM error) (power off restart, then, check inductor wire and input power if still abnormal)
E18	DC voltage too high (power off restart, then, check inductor wire and input power if still abnormal)
E19	DC voltage too low (power off restart, then, check inductor wire and input power if still abnormal)
E20	AC under voltage (checking input power overload)
E21	AC over current (checking whether power supply voltage drops or the load changes instantaneously)
E22	CT error (PFC hardware is abnormal)
E23	NA (N/A)
E24	IPM temperature sensor error (checking short/open failure of sensor(s))
E25	input lack of phase (checking the lack of phase if in three-phase power)
E26	drive board and main PCB communication error (checking communication circuit and the power of each PCB)
E27	wire controller EEPROM error (power off restart after whole system power off completely, it will be broken if EEPROM still doesn't work)
E28	Anti-freezing protection (checking the water speed and switch, checking refrigeration system)
E29	outdoor temp too low protection (out of machine operating range)
E30	auxiliary electric heating protection (checking whether the electric heating protection switch is normal and whether the electric heating power is overloaded.)
E31	DC fan motor error (whether the feedback wiring of DC fan is correct)

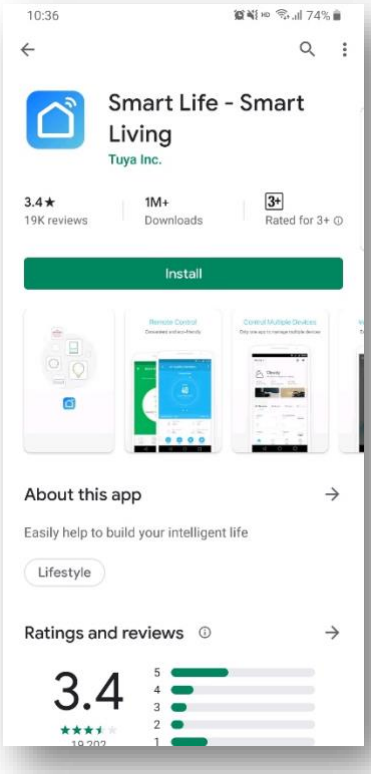
Section 4

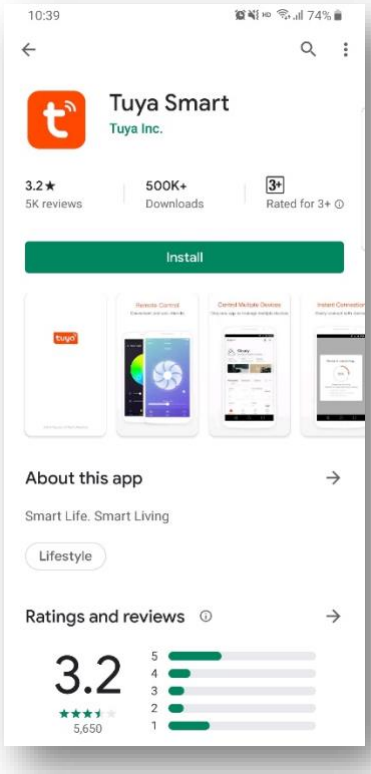
Wire Controller WIFI Connection Manual

1. APP download

- Chinese clients can search “智能生活” or “涂鸦智能” in Android or Apple App Store for downloading.

- Overseas clients can search “Smart Life” or “Tuya Smart” in Google Play Store or Apple App Store for downloading.

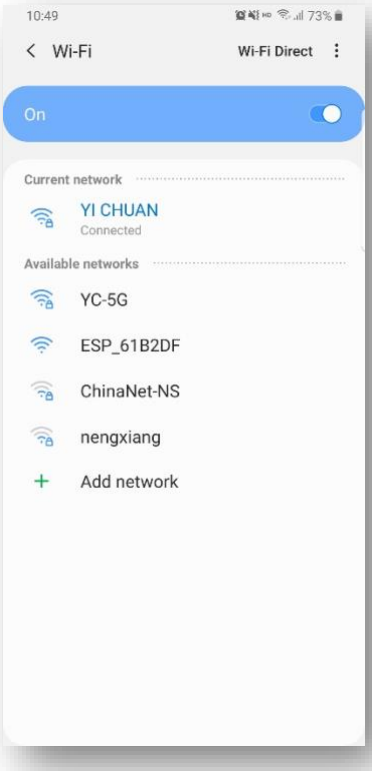




2. **Ensure the phone’s WIFI function**

- Turn on the phone’s Wi-Fi function and connect it to a network which can be shared with the wire controller device.

E.g. connecting the phone to “YI CHUAN” network.

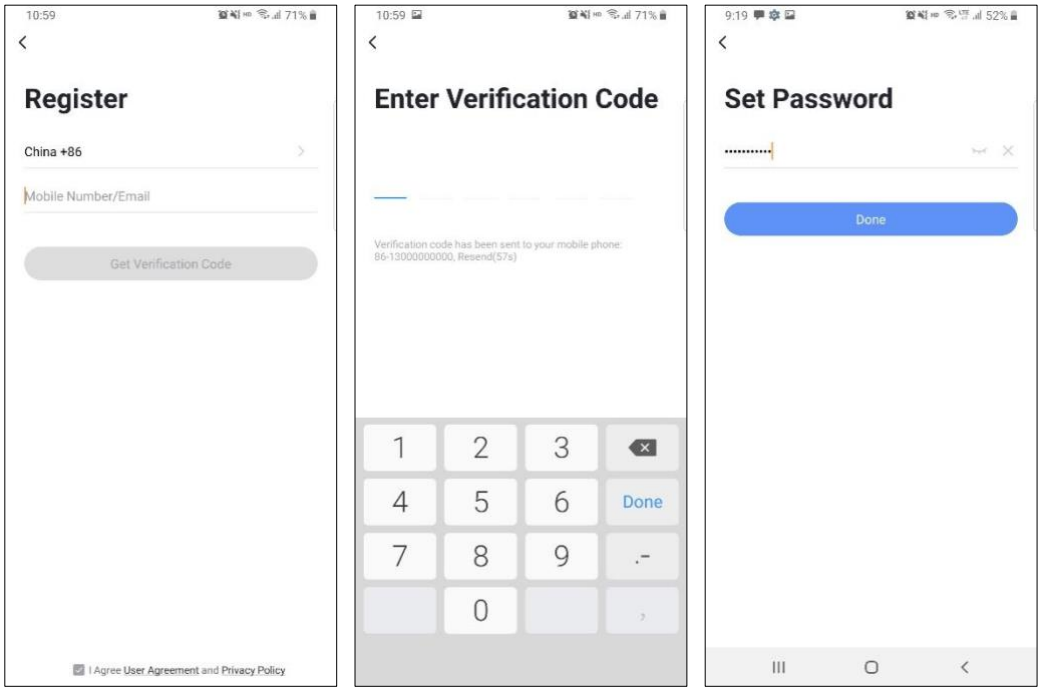


3. **Set the WIFI connection of wire controller**

- Long press "M + ⏻" for at least 3 seconds to reset the WiFi connection of the wire controller. If the WiFi indicator keeps blinking rapidly, it indicates that the wire controller is waiting for WiFi connection. In this state, set the network pairing according to the App's instructions.
- Long press "▲ + M + ⚙" for at least 3 seconds to switch on or off WiFi function. The buzzer's beeping for 3 times signifies that the WiFi function is activated, while a long beeping means that the WiFi function is deactivated.

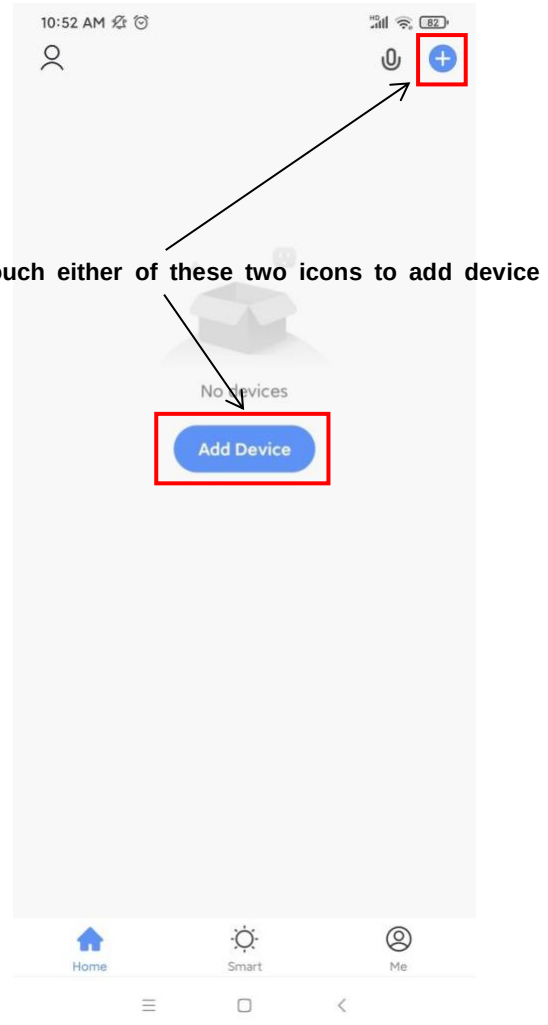
4. **Sing up and Log in**

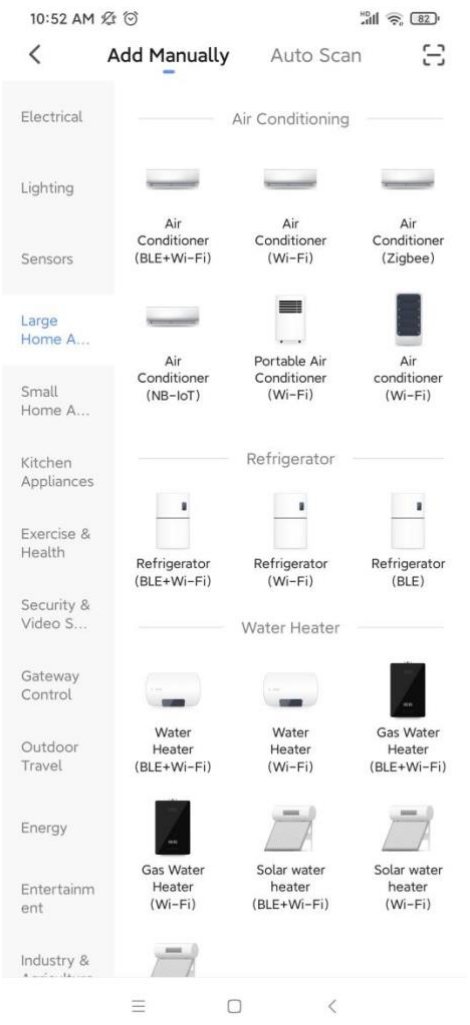
- Open the App and enter the login page. Enter your account number and password to log in.
- If you do not have an account, please touch the registration icon below to registe r. Enter your account number and confirm it by getting and entering a verification code, followed by password setting. As demonstrated in the pictures below:


10:59
71%
Register
China +86
Mobile Number/Email
Get Verification Code
I Agree User Agreement and Privacy Policy
10:59
71%
Enter Verification Code
Verification code has been sent to your mobile phone: 86-13000000000, Resend(57s)
1
2
3
4
5
6
Done
7
8
9
.-
0
9:19
52%
Set Password
Done

5. Add device

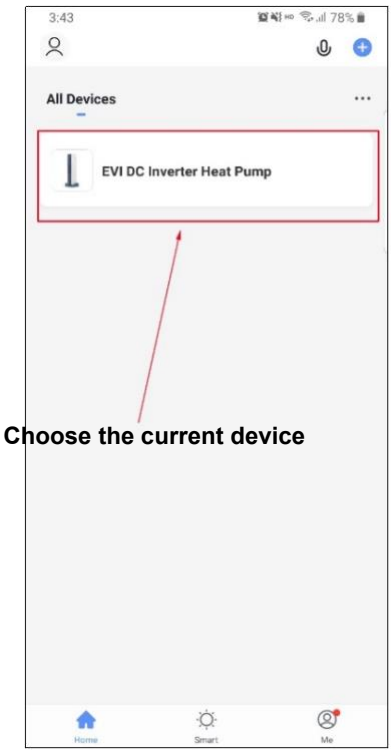
- After logging in successfully, you'll enter the page of adding device as show in the left picture below, touch the icon "⊕" on the top-right corner or the icon "Add Device" on the center of the page to enter the page of the right picture below.
- After that, add the device by following App's instructions. In this example, we choose the water heater.
- Reset the wire controller before tick the option box "Confirm the indicator is blinking rapidly". Choose the same network which the phone has been connected to (e.g. "YI CHUAN" in the picture above) and enter the password.
- Please wait patiently during the process of net pairing. At this moment, the WIFI indicator goes out.
- When the expected device appears on the page of "Added successfully", touch the icon "Done" to accomplish the process.
- The WIFI indicator will be always on after the net pairing succeeded.

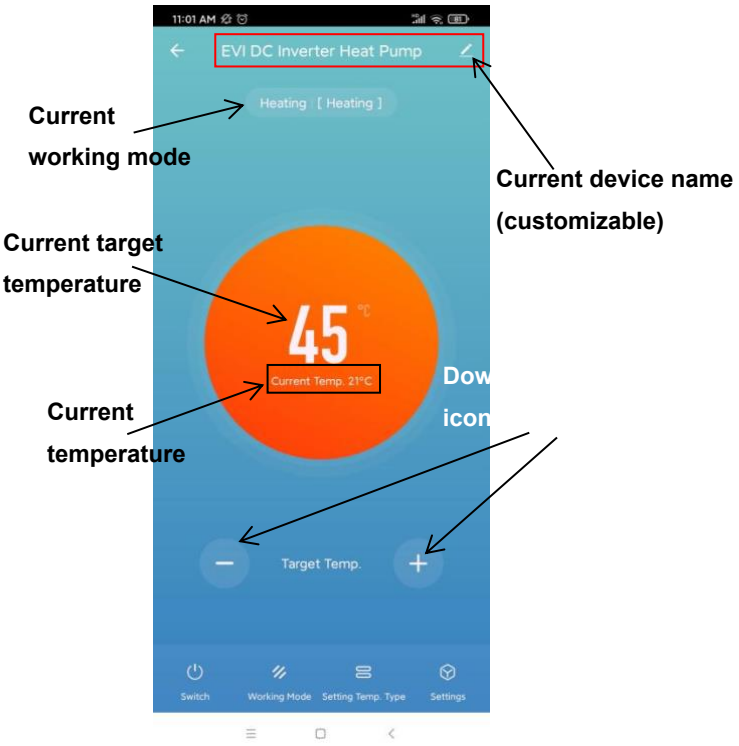




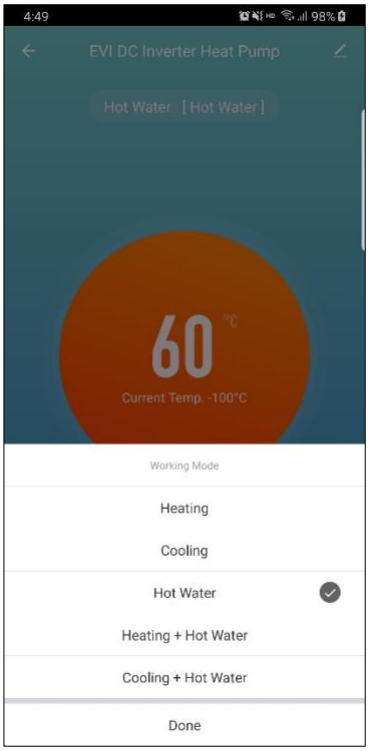
6. Basic device operation instructions

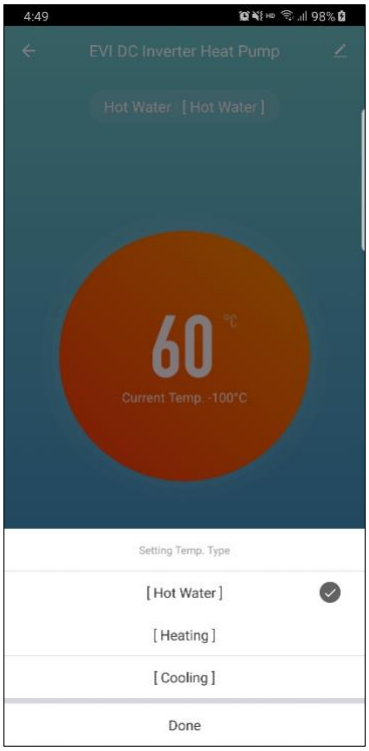
- After adding the device, touch the current device's name to enter the operating page.



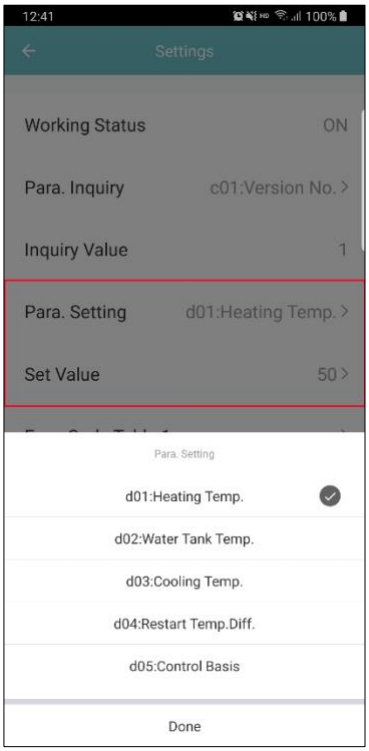


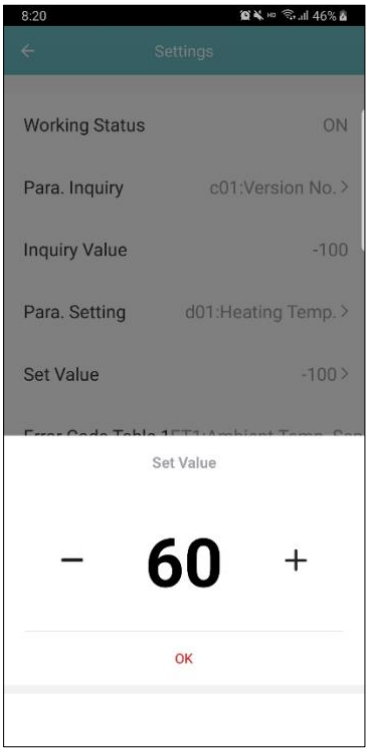
- On the main control panel, it's able to shift the working mode(bottom left), set the temperature type(bottom right) and adjust the target temperature.



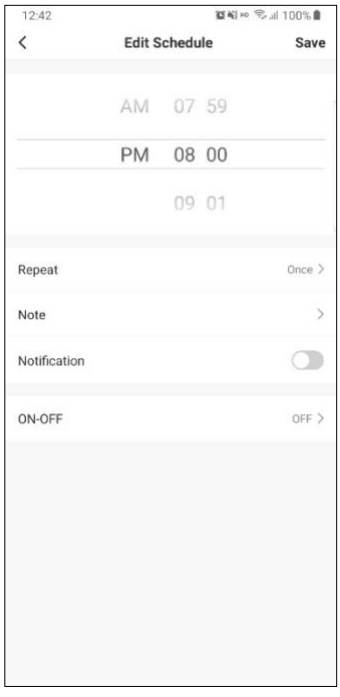


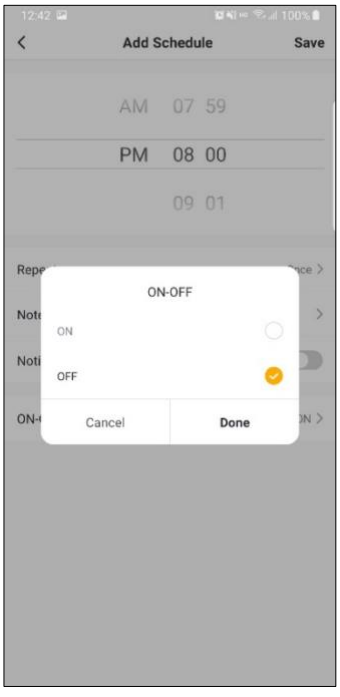
- Touch the “Settings” icon on the bottom-right corner of the control panel.
  - Setting parameters：

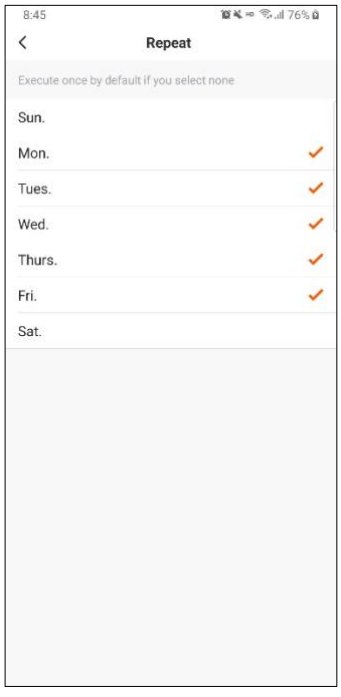




  - Timer：
    - Scroll to the bottom of the setting options and touch “Timer” to enter the Timer page(bottom left). You can choose to turn on/off the timer(bottom center) and set the repeating cycle(bottom right).







- After setting the timer, touch “Save” to save the settings. As the following left picture shows, the current setting is to turn off the device at 8:00 pm on weekdays(from Monday to Friday).

- In the setting options, you can look up the error code, including drive error, sensor error, etc. As is shown in the following right picture.