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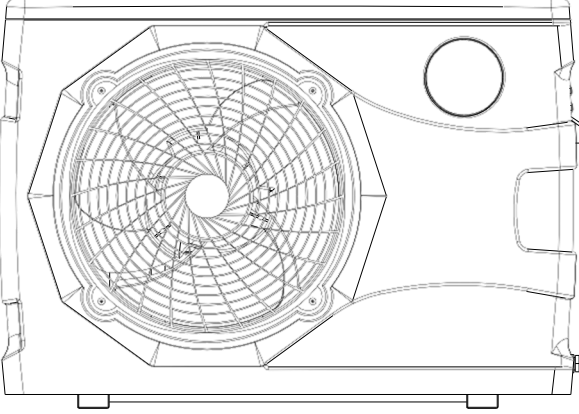


P O Box 2303 Logan City DC 4114. 43 Chetwynd St, Loganholme. Qld. 4129. Phone: (07) 3209 5466

# COMETFIXEDSPEED ABS SWIMMINGPOOLHEATPUMP COMET MODELS 108 to 130 JANUARY 2024 INSTALLATION AND INSTRUCTION MANUAL



# CONTENTS

Before starting the installation, please make sure that all the following items are found inside the box.

| Carton Box                        |   |          |
|-----------------------------------|---|----------|
| Item                              | Image   | Quantity |
| Swimming pool heat pump           |   | 1        |
| Operation and Installation Manual |  <p> <small>QIS</small> <small>SOLAR WISE</small><br/> <small>FREE CALL 1800 330 287</small><br/> <small>A/N 1439 331 232</small> <small>A/N 30 088 086 942</small><br/> <small>P.O. Box 2163 Logan City QC 4114 41 Chatterbox St, Loganholme, Qld 4129</small> <small>Phone 071 329 5466</small> </p> <p> <b>COMET FIXED SPEED<br/>           SWIMMING POOL HEAT PUMP<br/>           ABS/STAINLESS STEEL MODEL<br/>           SEPTEMBER 2023 ONWARDS<br/>           INSTALLATION AND INSTRUCTION<br/>           MANUAL</b> </p> | 1        |
| Accessories                       |   | 1(Set)   |



READ THIS MANUAL CAREFULLY BEFORE OPERATING THE UNIT.  
**RETAIN FOR FUTURE REFERENCE.**



BEFORE OPERATING THE UNIT, ENSURE THE INSTALLATION HAS BEEN CARRIED OUT IN ACCORDANCE WITH THESE INSTRUCTIONS. IF IN DOUBT CONSULT SOLARWISE OR YOUR SUPPLIER.

## **INTRODUCTION**

This manual includes the necessary information to safely install and maintain your Solarwise Inverter heat pump. Please read this manual carefully before you operate the unit.

### **The Heat Pump**

The Solarwise heat pump is one of the most reliable ways of heating your swimming pool efficiently. Using the free renewable energy from the air, it is one of the more efficient methods of heating your pool when compared to traditional pool heating. The Solarwise swimming pool heat pump extends your swimming season and gives you a truly comfortable pool for the designed swimming season.

#### ✧ **ECO Friendly**

The Heat Pump uses R32 Refrigerant which is ozone friendly, dramatically reducing Carbon Emissions.

#### ✧ **Titanium heat exchanger**

The advanced titanium heat exchanger guarantees a longer life span, free of corrosion. It can be used with all types of water treatment including chlorine, iodine, bromine and salt water.

#### ✧ **Multiple functions**

- Cooling and heating functions available
- Auto operation, Auto-restart, Auto defrost
- Auto timer on/off.
- Wide ambient working range: 5°C to 43°C

#### ✧ **Reliable operation**

The Solarwise heat pump has several built-in safety features, which include insufficient water flow protection, high/low pressure protection, overload protection and compressor protection.

#### ✧ **Self-diagnosis**

When there is a malfunction, the swimming pool heat pump will make self-diagnosis by displaying an error code on the control panel. To identify the problem, please refer to ERROR CODES pages in this manual.

## **SAFETY INSTRUCTIONS**

**The following safety precautions should always be considered.**

**Be sure to read the following WARNING before installing the unit.**

**Do not install the unit in a place where there is a chance of flammable gas leaks.**

To prevent injury or damage to property, the following instructions must be followed.

Install the unit only when it complies with local regulations, by-laws and standards.

Check the main voltage and frequency.

This unit must be earthed and have a supply voltage of 220 ~240 V / ~/ 1Ph.

### **Installing the Unit.**

Incorrect installation may cause injury due to fire, electric shock or water damage. If in doubt consult your local dealer or a qualified installer.

### **Securing the Unit.**

The unit should be located on a solid, level and horizontal surface. Ensure free airflow around the unit and sufficient service space above.

### **Electrical Connections.**

Ensure the correct sized circuit breakers, isolators and cables are used. All terminals should be tightly secured and not prone to stress. All heat pumps must be installed in accordance with AS/NZS 60335.2.40 (Clause 25.1). **This unit must be earthed.**

Standard AS/NZS 60335.2.40, which includes requirements for electrical heat pumps, air-conditioners and dehumidifiers (clause 25.1) states that appliances such as swimming pool heat pumps installed outdoors cannot be provided with a supply cord fitted with a plug and therefore must be hardwired.

This standard applies to all swimming pool and spa heat pumps sold in Australia irrespective of brand. The same has been confirmed by Standards Australia and by SPASA Australia.

### **Materials.**

To prevent fire, electric shock and other hazards all materials should be suitable for the specific use of this unit.

### **Never use an extension cable to connect the unit to the electric power supply.**

If there is no suitable earthed supply available, have one installed by a qualified electrician.

**Do not move/repair the unit yourself.**

Before carrying out any maintenance, service or repair work, the product must be isolated from the mains electrical supply. To prevent possible injury, only qualified installers or service technicians should carry out maintenance or repairs.

### **Water Connections.**

All plumbing connections should be carried out as per the instructions in this manual. Failure to do so could result in water damage and/or cancellation of the product warranty.

**Cleaning the Unit.**

To prevent injury always turn the power 'OFF' when cleaning or servicing the unit.

**Error Codes.**

If an error code occurs, isolate the unit immediately and call your installer.

**Avoid contact with the fan when running as this will cause serious injury.**

**INSTALLATION**

The following information is for guidance only.

**Locating the Unit**

The unit should be located on a solid and level surface. Ensure the heat pump has sufficient air flow and free air space around it, contact Solarwise if unsure. Ensure adequate access to the controller and the heat pump for maintenance purposes.

**Precautions**

- Avoid locating the unit close to bedrooms or other noise sensitive areas.
- Avoid a location which could create vibration.
- Try to avoid placing the unit under a tree or exposure to extreme conditions.

**Water connection**

The heat pump will be connected to a pool filtration system which should also incorporate a Solarwise Integrate Controller for a retro-fit installation or a separate flow pump depending on the existing site.

A by-pass must be installed to allow for the balancing of the water flow for correct operation, this is usually set at a two (2) to three (3) degree differential.

The by-pass generally consists of 3way valves which makes it possible to balance the water flow which passes through the heat pump and to isolate the heat pump completely for any maintenance work, without cutting the pipe work.

If your installation is connected to a filtration system, the water must be diverted to the heat pump after the filter and prior to the chlorinator cell or injection ports, then returned back to the filtration system prior to the chlorinator cell or injection ports.

**Where there are PVC threads involved, a suitable thread tape must be used.**

### Electrical connection

The electrical supply must correspond to that indicated on the appliance.

All supply cables must be sized according to the appliance power and installation requirements.

Please refer to below table:

The above are an indication only. Please refer to a qualified electrician if in doubt.

| Heat Pump | Cable Size           |
|-----------|----------------------|
| Comet 108 | 3x2.0mm <sup>2</sup> |
| Comet 115 | 3x2.5mm <sup>2</sup> |
| Comet 118 | 3x2.5mm <sup>2</sup> |
| Comet 125 | 3x4.0mm <sup>2</sup> |
| Comet 130 | 3x4.0mm <sup>2</sup> |

### Start-up and Balancing



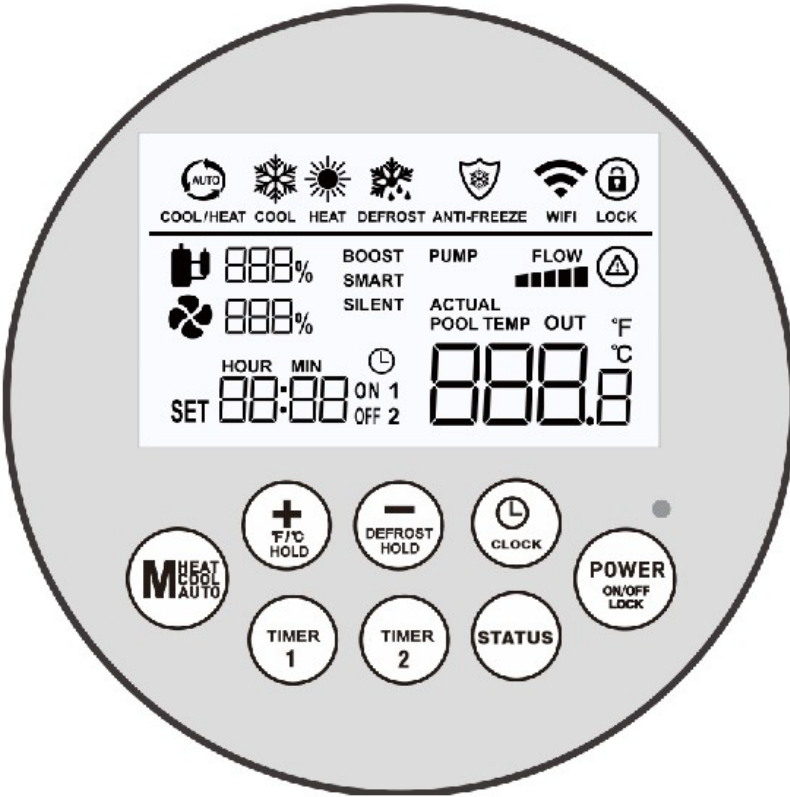
**ATTENTION: THE HEAT PUMP ONLY OPERATES WHEN WATER FLOW IS PRESENT.**


You can start up and balance the heat pump following the procedure below:







- Open all the by-pass valves fully.
- Turn on the heat pump.
- Set the required pool temperature.
- Balance the water flow via the by-pass valves. This is done by adjusting the valve positions to achieve a temperature differential of two (2) to three (3) degrees on most units. If unsure consult Solarwise.

**It is recommended during the initial start-up phase, that the heat pump should operate continuously until the required pool temperature is achieved before setting any on and off timers or restricting the operating times. Check with your supplier or heating system designer for the optimum or designed operating time frame.**

# Controller Operation Instructions





| No | Icon  | Function   |
|----|---|--|
| 1  |  | <p>*In the unlocked state, press this button for 3 seconds to switch on or off.</p> <p>*Tapping this key acts as an enter key when using other interfaces.</p> <p>*When the screen is locked, press and hold this button for 3 seconds and then a beep will be heard to indicate the unit is unlocked. The unit will automatically lock after 1 minute if there is no operation.</p> |

|   |   |  |
|---|---|--|
| 2 |    | *Short press this key to enter Timer 1 mode.   |
| 3 |    | *Short press this key to enter Timer 2 mode.   |
| 4 |    | *Short press this key to enter the parameter query mode  |
| 5 |    | <p>*In the power-on and unlock state, short press this button to switch between modes: heating mode, cooling mode, and automatic mode.</p> <p>*In the main interface, press this button for 3 seconds to enter the unit status query.</p> <p>*In the parameter setting interface, combine the "+" and "-" keys to set the parameters.</p>  |
| 6 |  | <p>* Page up and down to query and modify parameter values</p> <p>*Combine the "M" mode key to query and set various parameters</p> <p>* In the state of booting and unlocking, press the "+" and "-" keys to set the set temperature of the current mode</p> <p>* In the unlocked state, press and hold the "+" key for 3 seconds to switch between Fahrenheit and Celsius display</p> <p>*In the power-on state, long press the "-" key for 3 seconds to enter the manual defrost mode, and automatically exit after reaching the exit conditions.</p> |
| 7 |  | *Timer and clock button  |

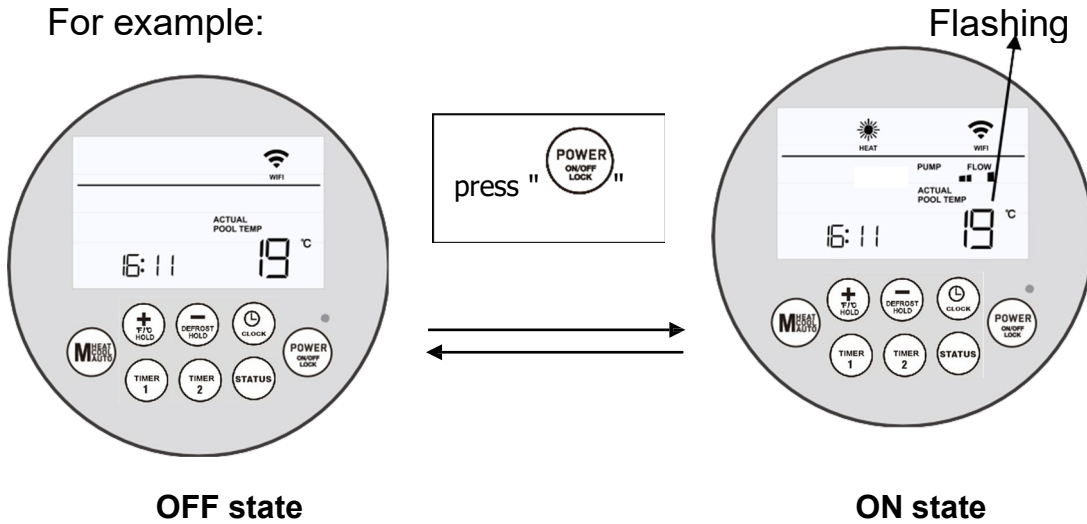


## 1. Turning the unit ON or OFF


When the unit is OFF, the time of day will be displayed on the controller screen, press "  " for 5 seconds to turn on the unit.

When the unit is ON, the screen shows the temperature of the inlet (pool) water, press "  " for 5 seconds to shut down the unit.

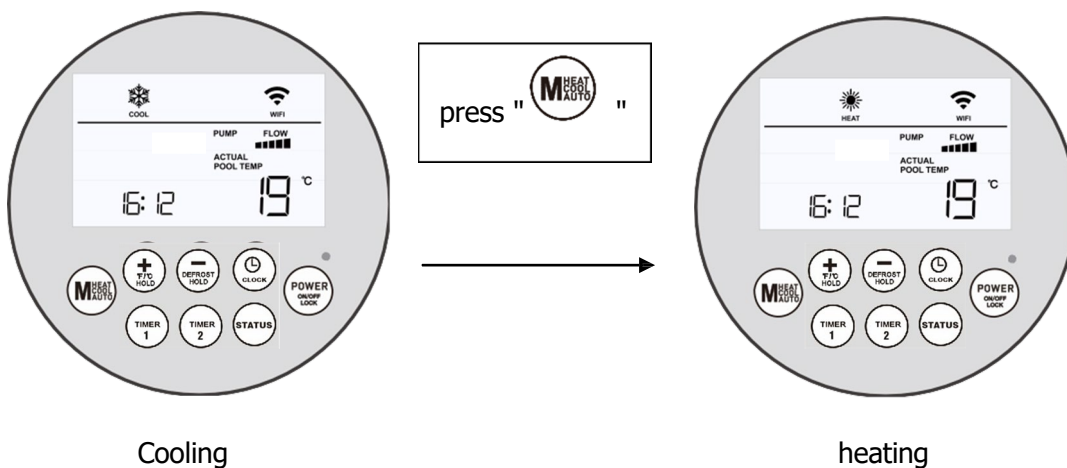
For example:





## 2. Mode switch




When the unit is ON, you can change modes to auto, heating or cooling by pressing. 

For example:

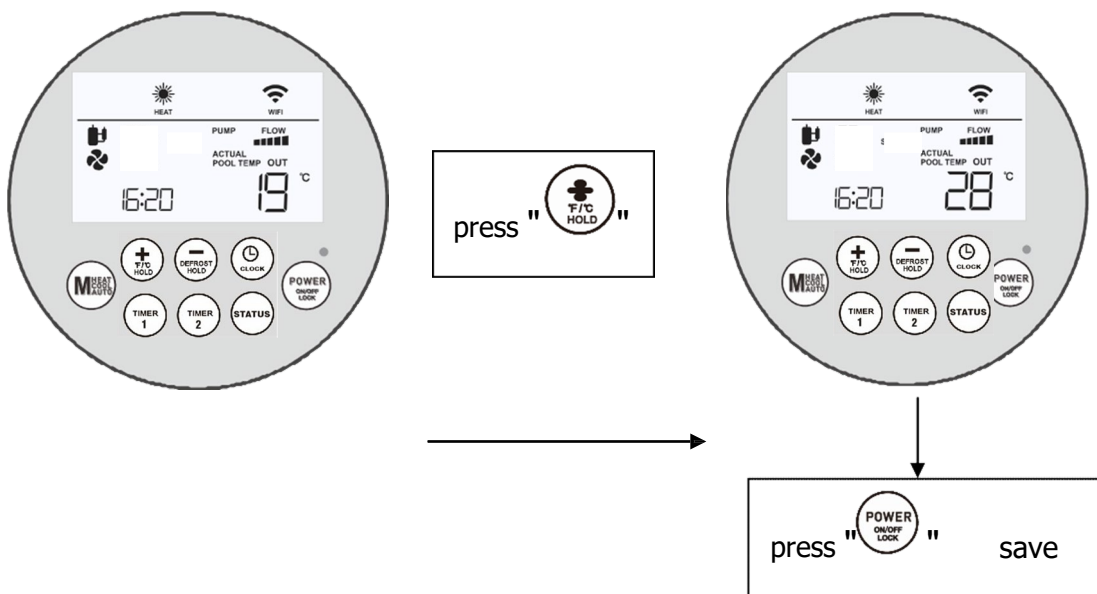


### 3. Setting the pool temperature

When the screen displays the main interface, press "  " or "  ", this will display the set temperature.


Press "  " or "  " to alter and set the temperature as required. Press "  " to save and return to the main interface.






For example:





### 4. Time of day setting

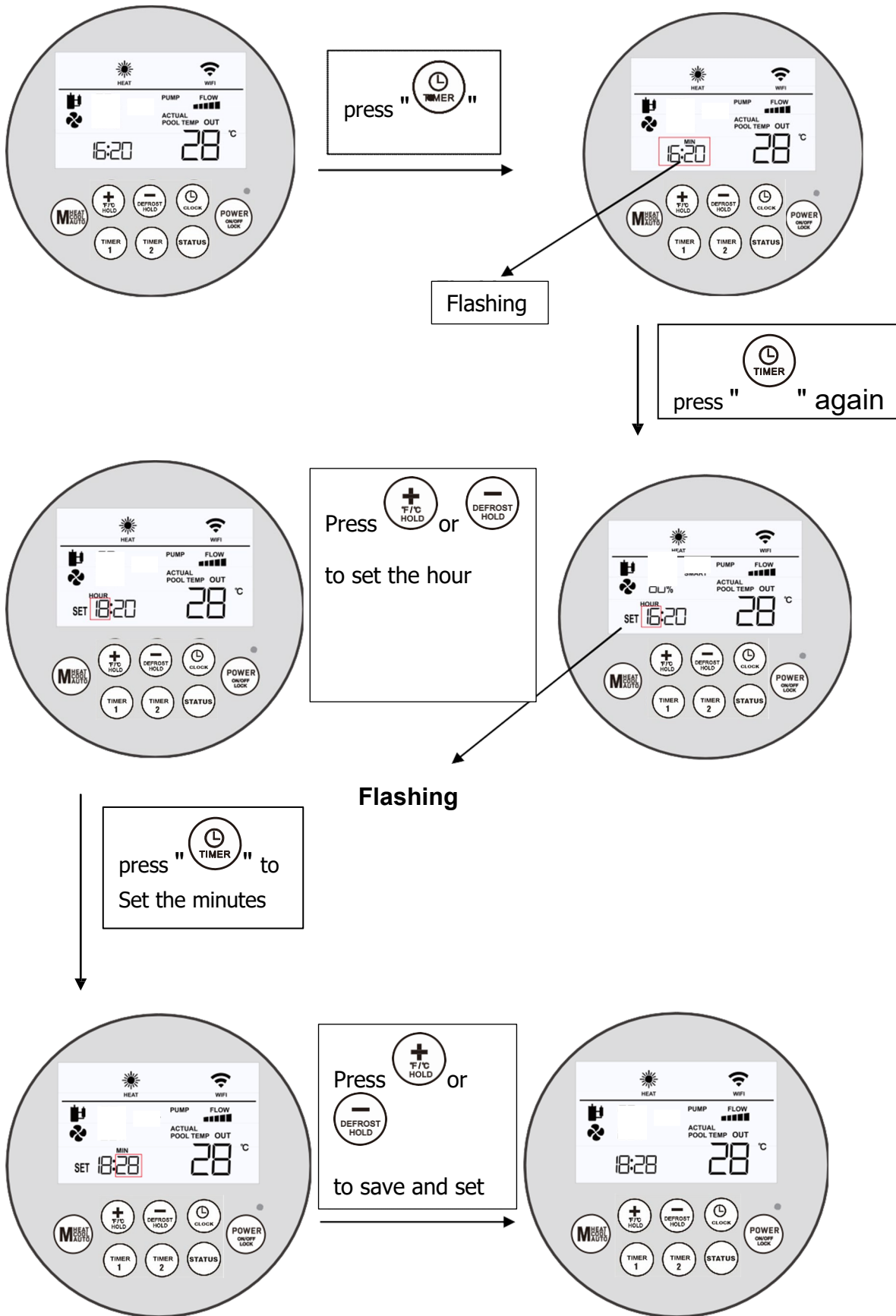
In the ON or OFF state, you can press "  " for 5 seconds to set the clock.

Press "  " again and you will see the numbers of hour are flashing.

Press "  " or "  " to increase or decrease the number then press "  " to set the minutes by pressing "  " or "  " .




When finished setting the clock press "  " or "  " to save.



For example:



## 5. Timer setting





### 5.1 Setting Timer


There are two groups of timers in this controller. In the unit ON or OFF state, press "  " to enter into the timer 1 setting. You will see the group "1" number is flashing, press "  ", the hour number and "  1 " will be flashing, they indicate which timer 1 group you are setting.


Then press "  " or "  " to increase or decrease the number.

After finishing setting the hour press "  " to set the minutes using the same process.

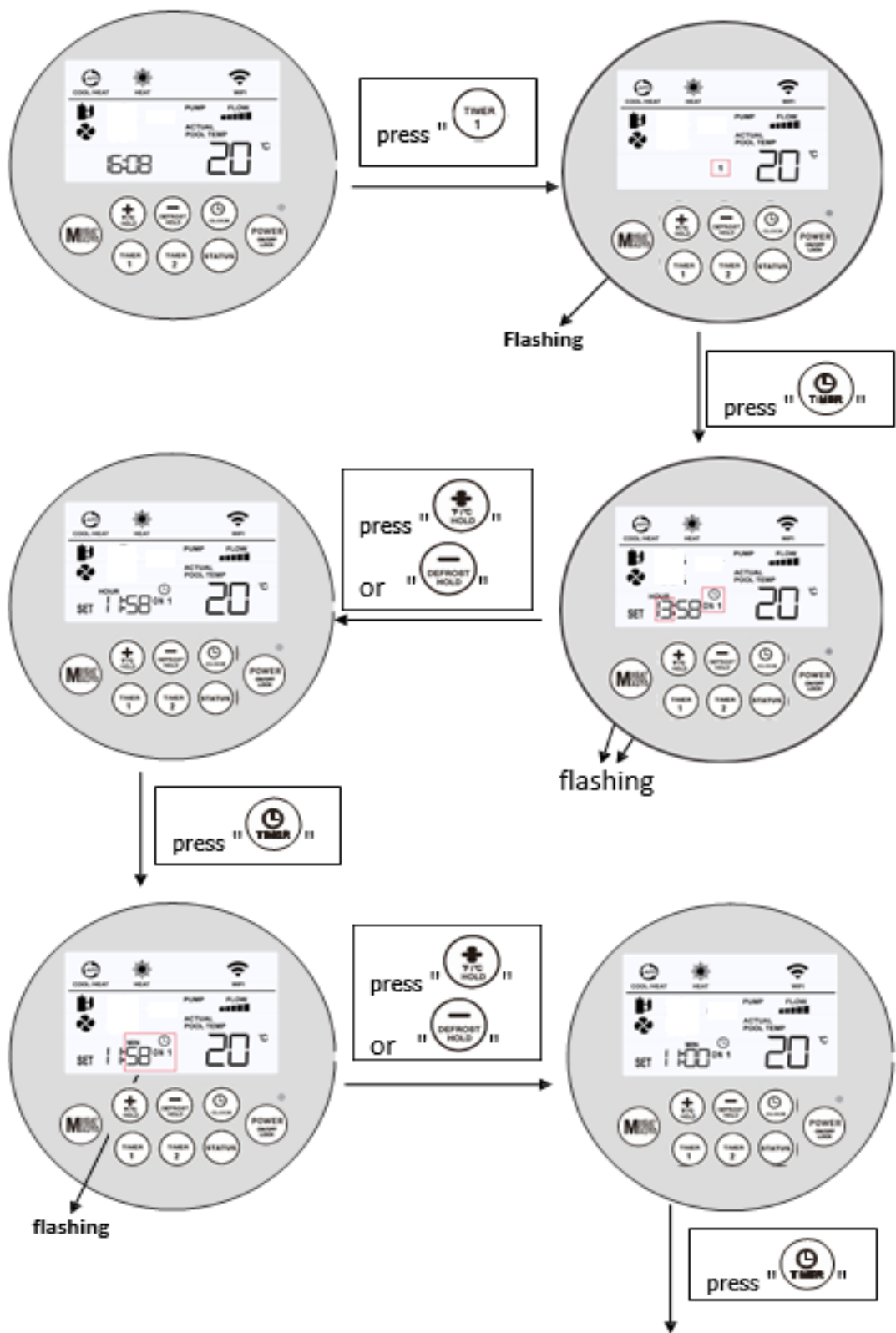
When the timer ON setting is finished, press "  " and you will see the hour number and icon

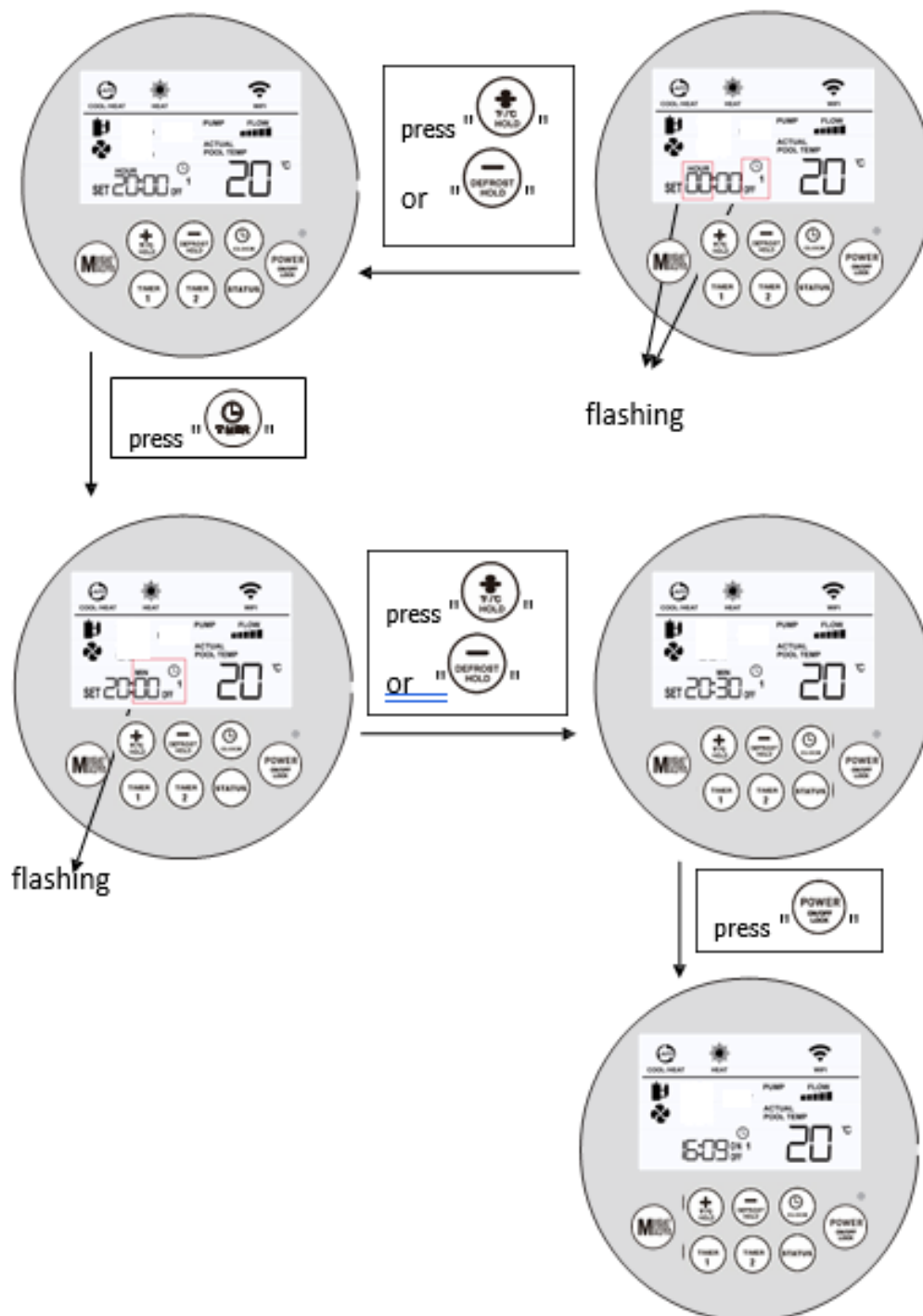
"  1 " are flashing. Press "  " or "  " to increase or decrease the number and follow the same process as the timer ON setting to complete. Press "  " to set.

Press "  " to save and go back to the main interface.

In the main interface, press "  " to check the group 2 settings and change using the same process as above,


**For example:**






## 5.2 Cancelling Timer

Set the time of timer ON value and the timer OFF value to the same time and


press "  " to save. The timer will now be cancelled.

## 6. Locking and unlocking the controller

When there is no use of the controller screen for one minute the controller screen will lock.

Press "" for 5 seconds to unlock.

## 7. Error display

There will be error code showing on the controller screen and the icon "" will light up.

when relative malfunction occurs. Refer to the error code table to find out the failure cause.

### Status parameter query:

In the main interface, press the "" button to enter the unit parameter status, press the "+" key or "-" key to scroll to each parameter.

| Code  | Parameter Name              | Description  | Typical Range                       |
|-------|-----------------------------|--|-------------------------------------|
| A1    | Coil temp                   | Evaporator coil temperature.   | (-10)-15°C (Heat)<br>35-48°C (Cool) |
| A2    | Compressor suction gas temp | Refrigerant gas temperature at the inlet of the compressor.              | (-10)-15°C (Heat)<br>10-25°C (Cool) |
| A3    | Compressor exhaust gas temp | Refrigerant gas temperature at the outlet of the compressor.             | 40-80°C (Heat)<br>60-95°C (Cool)    |
| A4    | Ambient air temp            | Surrounding ambient air temperature.                                     | (-10)-45°C                          |
| A5    | Outlet water temp           | Water temperature at the outlet of the heat pump (return to water tank). | 5-60°C                              |
| A6    | Compressor current          | Displays the compressor current (3-Phase units only).                    | 5-10A                               |
| A7    | Opening of the EEV          | Opening angle of the EEV (Electronic Expansion Valve).                   | 10-60                               |
| E1-E6 | Error code display          | Displays up to 6 error codes.  | None                                |

## Error Codes

| Code | Failure  | Possible reasons   | Remedy   |
|------|--|--|--|
| Er01 | Phase dislocation                                | Wrong connection of live wires   | 1) Reverse position of the live wires (3-Phase units only).  |
| Er02 | Phase loss. (3-Phase units only).                | Live wires loose or without power  | 1) Check if live wires loose or without power.   |
| Er03 | Water flow switch failure                        | 1) Inadequate water flow<br>2) Water flow switch damaged.<br>3) Main PCB damaged   | 1) Check the pump.<br>2) Replace the flow <a href="#">switch</a><br>3) Replace the PCB   |
| Er04 | Anti-freeze protection in winter                 | This function occurs when the ambient temperature is too low.  | No action needed   |
| Er05 | High pressure protection                         | 1) Inadequate flow rate<br>2) Uncompressed gas in the refrigerant system<br>3) Overcharge with refrigerant<br>4) Water temp setting too high<br>5) Poor connection of pressure switch<br>6) Pressure switch failure<br>7) Main PCB damaged | 1) Check pump and water control valve.<br>2) Discharge and then recharge the refrigerant.<br>3) Discharge some refrigerant.<br>4) Set lower water <a href="#">temperature</a><br>5) Reconnect the <a href="#">switch</a><br>6) Replace the pressure <a href="#">switch</a><br>7) Replace the PCB |
| Er06 | Low pressure protection                          | 1) Undercharged refrigerant.<br>2) Capillary block<br>3) Poor connection of pressure switch<br>4) Pressure switch failure<br>5) Main PCB damaged   | 1) Add some refrigerant.<br>2) Replace the capillary.<br>3) Reconnect the switch.<br>4) Replace the pressure switch.<br>5) Replace the PCB   |
| Er09 | Communication failure                            | The control pad and PCB connection failure   | Check the wire connection  |
| Er12 | Over-high compressor exhaust gas temp protection | 1) Refrigerant Undercharged<br>2) Possible reasons as Er05   | 1) Add some refrigerant.<br>2) Similar corrections as Er05   |
| Er15 | Inlet water temp sensor failure                  | 1) Sensor open circuit<br>2) Sensor short circuit<br>3) Main PCB damaged   | 1) Check sensor <a href="#">connection</a><br>2) Replace the sensor.<br>3) Replace the main PCB  |
| Er16 | Coil temp sensor failure                         | 1) Sensor open circuit<br>2) Sensor short circuit<br>3) Main PCB damaged   | 1) Check sensor <a href="#">connection</a><br>2) Replace the sensor.<br>Replace the main PCB   |



|      |   |  |  |
|------|---|--|--|
| Er18 | Compressor exhaust gas temp. sensor failure                     | <ol style="list-style-type: none"> <li>1) Sensor open circuit</li> <li>2) Sensor short circuit</li> <li>3) Main PCB damaged</li> </ol>   | <ol style="list-style-type: none"> <li>1) Check sensor <a href="#">connection</a></li> <li>2) Replace the <a href="#">sensor</a></li> <li>3) Replace the main PCB</li> </ol>   |
| Er21 | Ambient temp sensor failure                                     | <ol style="list-style-type: none"> <li>1) Sensor open circuit</li> <li>2) Sensor short circuit</li> <li>3) Main PCB damaged</li> </ol>   | <ol style="list-style-type: none"> <li>1) Check <a href="#">sensor connection</a></li> <li>2) Replace the <a href="#">sensor</a></li> <li>3) Replace the main PCB</li> </ol>   |
| Er23 | Over low outlet water temperature protection under cooling mode | <ol style="list-style-type: none"> <li>1) Inadequate water flow rate</li> <li>2) Over low inlet water temp</li> <li>3) Main PCB damaged</li> </ol>   | <ol style="list-style-type: none"> <li>1) Check the water filter and water circuit (no block)</li> <li>2) Adjust the setting temp to normal working <a href="#">range</a></li> <li>3) Replace the main PCB</li> </ol>  |
| Er27 | Outlet water temp sensor failure                                | <ol style="list-style-type: none"> <li>1) Sensor open circuit</li> <li>2) Sensor short circuit</li> <li>3) Main PCB damaged</li> </ol>   | <ol style="list-style-type: none"> <li>1) Check sensor <a href="#">connection</a></li> <li>2) Replace the <a href="#">sensor</a></li> <li>3) Replace the main PCB</li> </ol>   |
| Er29 | Compressor suction gas temp sensor failure                      | <ol style="list-style-type: none"> <li>1) Sensor open circuit</li> <li>2) Sensor short circuit</li> <li>3) Main PCB damaged</li> </ol>   | <ol style="list-style-type: none"> <li>1) Check sensor <a href="#">connection</a></li> <li>2) Replace the <a href="#">sensor</a></li> <li>3) Replace the main PCB</li> </ol>   |
| Er35 | <a href="#">Compressor over-high current protection</a>         | <ol style="list-style-type: none"> <li>1) Inadequate water flow rate under heat mode</li> <li>2) If ambient temp is above 31 °C under heat mode</li> <li>3) If fan motor broken under cool mode</li> </ol> | <ol style="list-style-type: none"> <li>1) Check pump, <a href="#">filter</a> and water circuit (no block)</li> <li>2) Check ambient/inlet/outlet water <a href="#">temperatures</a></li> <li>3) Check compressor exhaust and suction gas <a href="#">temperatures</a></li> </ol> |
| Er44 | Over-low ambient temp protection                                | This function occurs when ambient temp is too low.   | Check if ambient temp is <a href="#">below</a> -10°C.  |
| Er45 | Over-high outlet water temp protection under heat mode          | <ol style="list-style-type: none"> <li>1) Inadequate water flow rate</li> <li>2) Set outlet water temp is too <a href="#">high</a></li> <li>3) Outlet water temp sensor or main PCB damaged</li> </ol>     | <ol style="list-style-type: none"> <li>1) Check pump, <a href="#">filter</a> and water circuit (no block)</li> <li>2) Adjust set outlet water temperature to normal working <a href="#">range</a></li> <li>3) Replace outlet water temperature sensor or main PCB</li> </ol>     |

## TROUBLESHOOTING

This section provides useful information for diagnosing and correcting simple problems which may occur. Before starting the troubleshooting procedure, carry out a thorough visual inspection of the unit and look for obvious defects such as loose connections or defective wiring.

Before contacting your supplier, read this chapter carefully. It could save you time and money.

The hints below are for guidance only. If you cannot solve the problem, consult your installer/supplier.

The heat pump will not run, check for the following.

- Is there an electrical supply issue such as a tripped fuse or power failure.
- Is the controller switched on or is the pool temperature above the set temperature.

The set temperature level cannot be reached, check for the following.

- The design criteria of the heat pump selection have not altered such as a lack of pool blanket usage, run timers are not long enough or lower temperatures than usual, setting the temperature too high.
- The air inlet or outlet area is blocked, restricted or dirty.
- There are closed valves or stop-cocks in the water pipes.

The timer works but the program is executed at the wrong time. Check for the following.

- The clock and the day of the week are set correctly, adjust if necessary.

If you cannot correct the fault yourself, please contact your after-sales service technician.

Work on the heat pump may only be carried out by authorized and qualified service technicians.

## MAINTENANCE

To protect the paintwork, avoid leaning or putting objects on the shell. External heat pump parts can be wiped with a damp cloth and domestic cleaner. (Warning: Never use cleaning agents containing sand, soda, acid or chloride as these can damage the surfaces.)

To prevent blockages in the titanium heat exchanger, ensure that the system incorporates a water and filter treatment facility. In the event of a problem occurring due to contamination, the system should be cleaned as described below. (Warning: the fins on the finned tube heat exchanger are sharp!).

**Attention: Before opening the unit, ensure that all electrical supplies are isolated.**

## **Cleaning the Heat Exchanger and Pipework**

Contamination in the pipes and heat exchanger can reduce the performance of the heat pumps' titanium heat exchanger. If this is the case, the pipe system and heat exchanger must be cleaned by a technician. Use only pressurized drinking water for cleaning.

## **Cleaning the air system**

The finned heat exchanger, fan and condensate outflow should be clear of all obstructions (leaves, twigs, etc.) before each new heating season. These can be manually removed using compressed air or by flushing with clean water. It may be necessary to remove the unit cover and air inlet grid first.

To prevent the evaporator and the condensate tray from being damaged, do not use hard or sharp objects for cleaning.

Under extreme weather conditions (e.g. snow drifts), ice may form on the air intake and exhaust air outlet grids. If this happens, the ice must be removed in the vicinity of the air intake and exhaust air outlet grids to ensure that the minimum air flow rate is maintained.

## **Winter Shutdown.**

To prevent frost damage to the unit when not in use the heat pump should be drained of all water in frost or snow prone areas. Failing this, another form of frost protection should be considered and actioned.

**Attention: The warranty does not cover damage caused by inadequate frost protection measures during the winter.**

## **ENVIRONMENTAL INFORMATION**

This equipment contains fluorinated greenhouse gases covered by the Kyoto Protocol. It should only be serviced or dismantled by professional trained technicians.

This equipment contains R32 refrigerant in the amount as stated in the specification. Do not vent R32 into the atmosphere: R32, is a fluorinated greenhouse gas with a Global Warming Potential (GWP) = 675.

## **DISPOSAL REQUIREMENTS**

Dismantling of the unit, treatment of the refrigerant, of oil and of other parts must be carried out in accordance with relevant local and national legislation.



Your product is marked with this symbol. This means that electrical and electronic products should not be mixed with unsorted household waste.

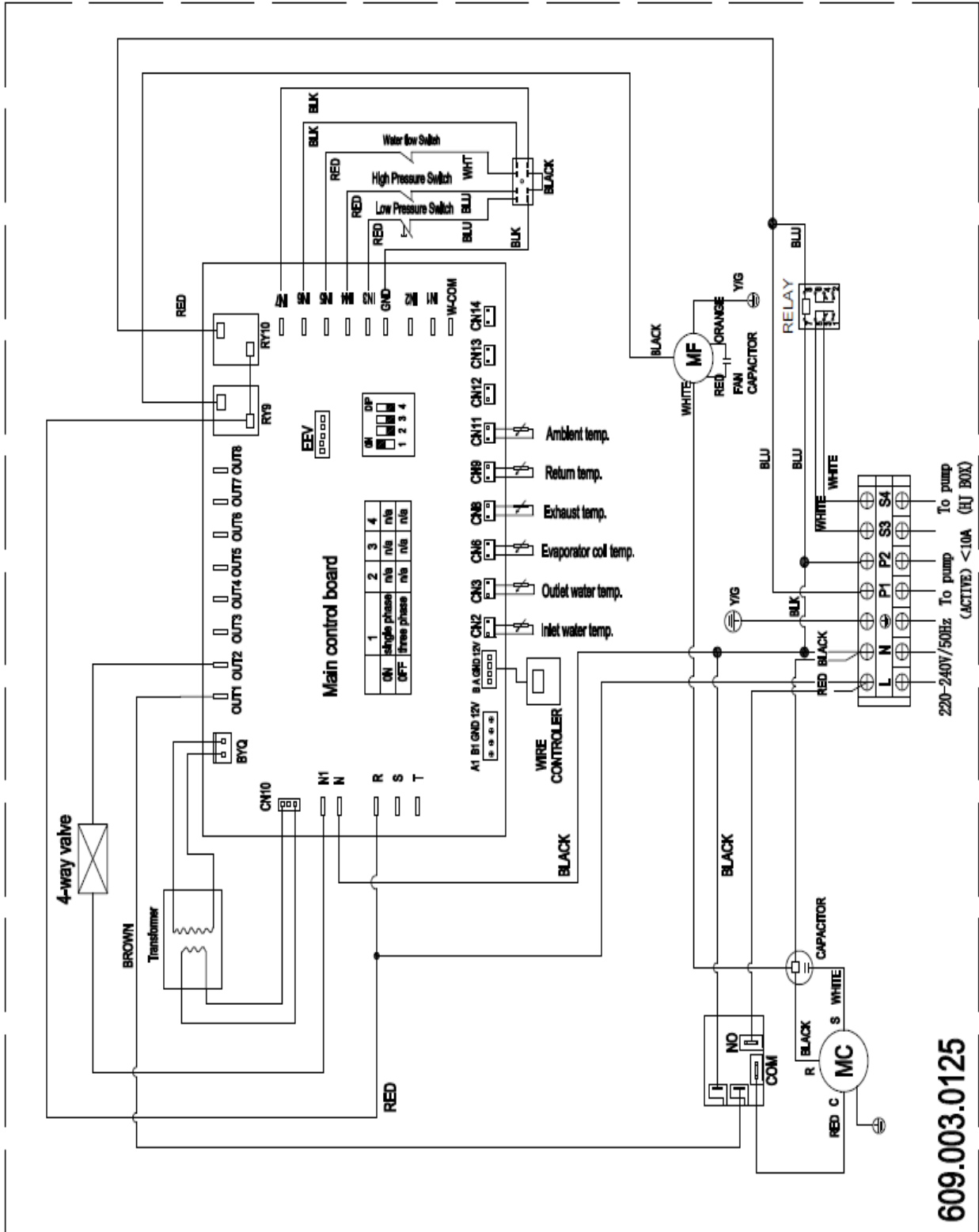
Do not try to dismantle the system yourself: the dismantling of the system, treatment of the refrigerant, of oil and other parts must be done by a qualified installer in accordance with relevant local and national legislation.

Units must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring that this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information.

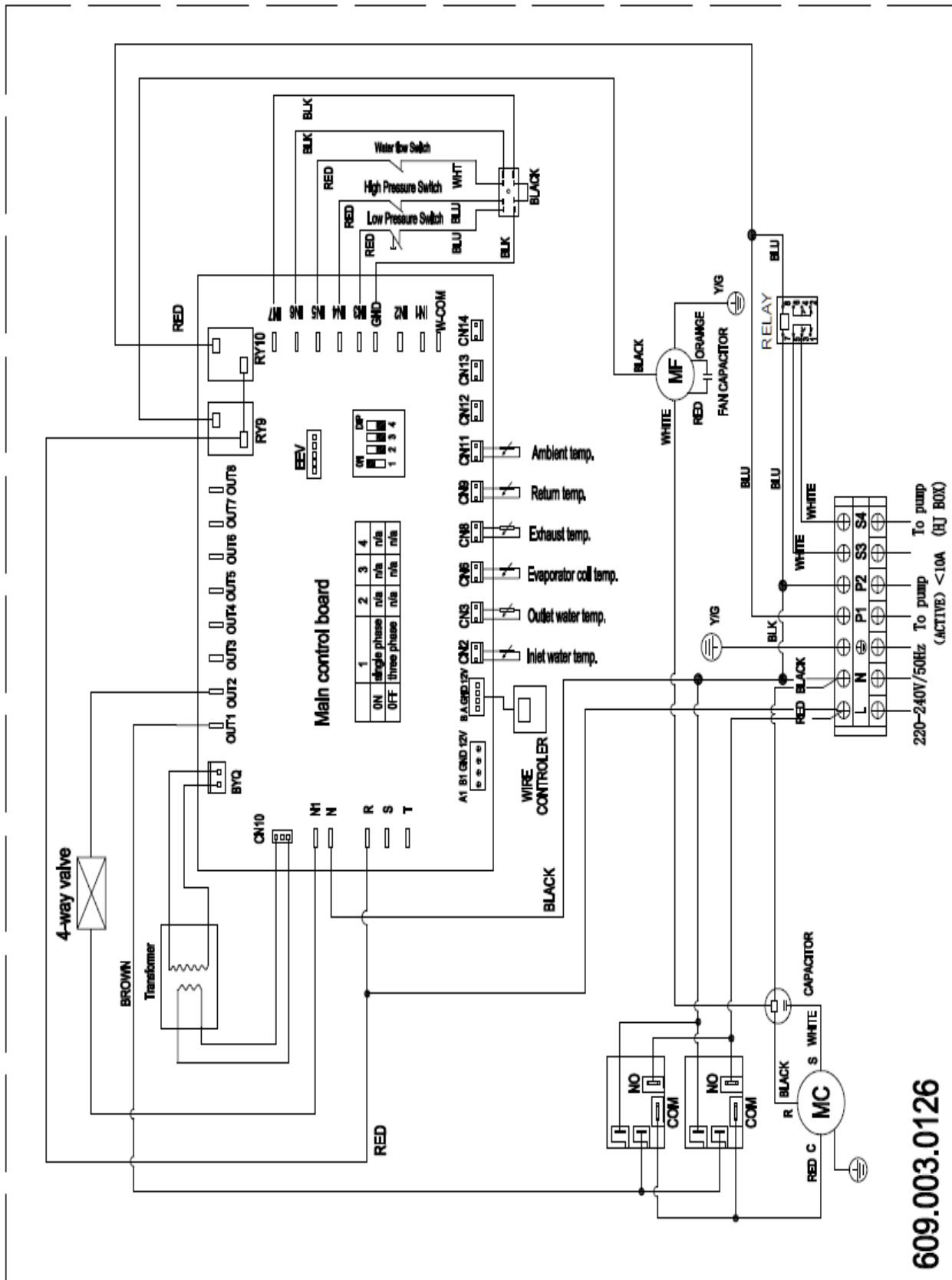
# WIRING DIAGRAM

Please refer to the wiring diagram on the electric box.

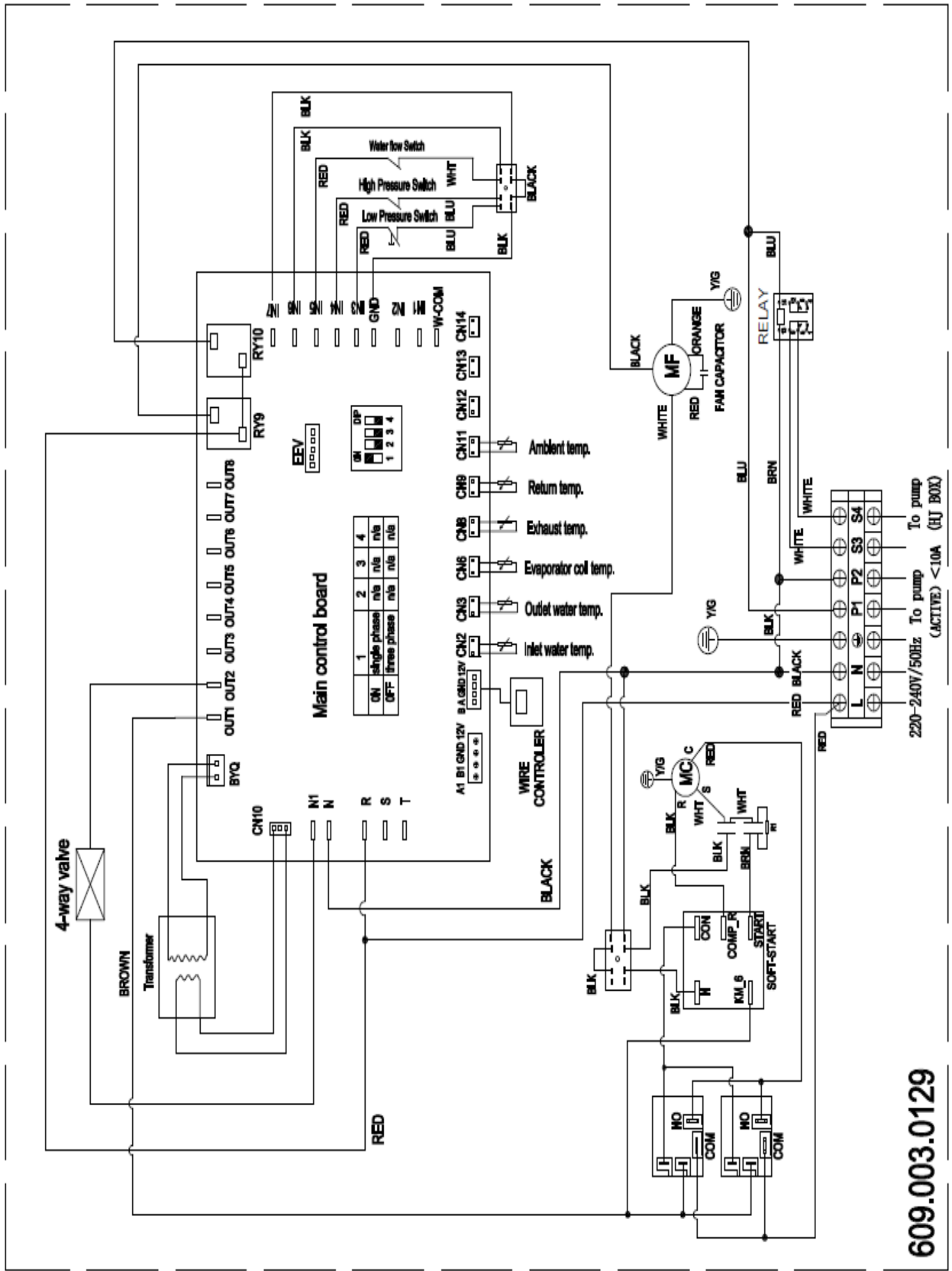
Comet Fixed Speed Models 108/115/118



# Comet Fixed Speed Model 125



# Comet Fixed Speed Model 130



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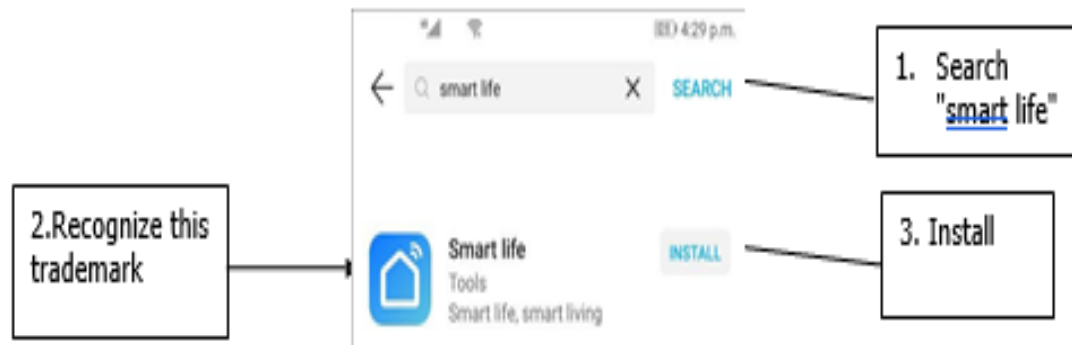




## WiFi application

### Install APP.

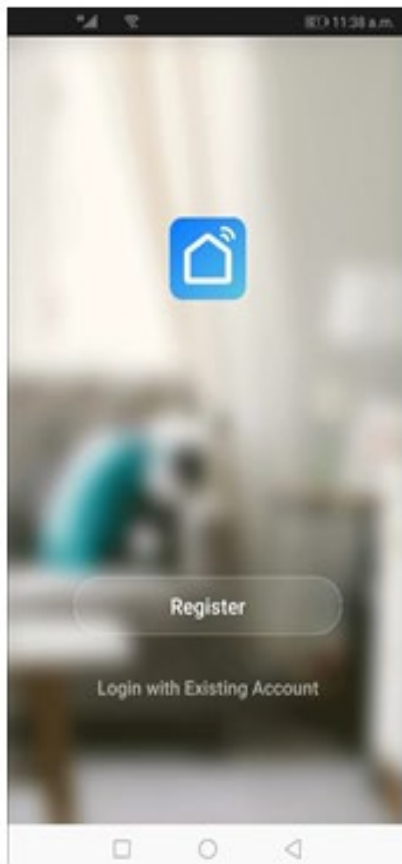
Download and install the APP in the "app store" using your computer or mobile phone.



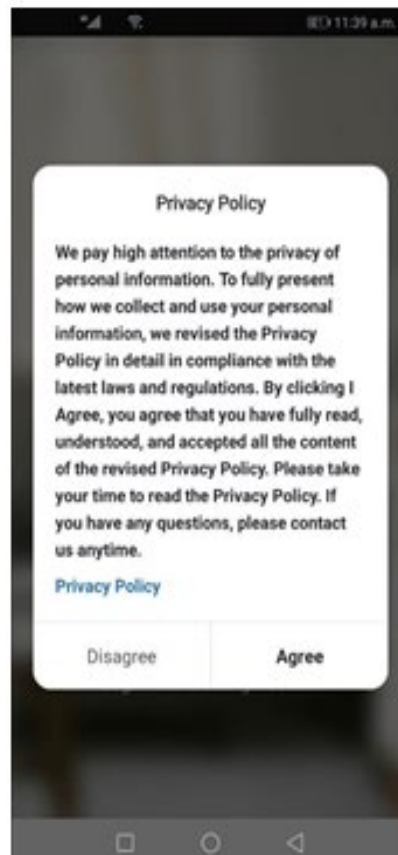
### Startup software.

After the installation is complete, click on the desktop icon "Smart Life" to launch the software.

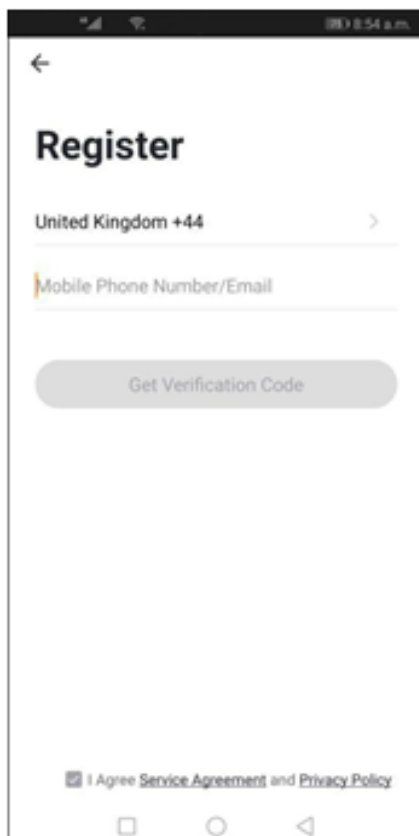




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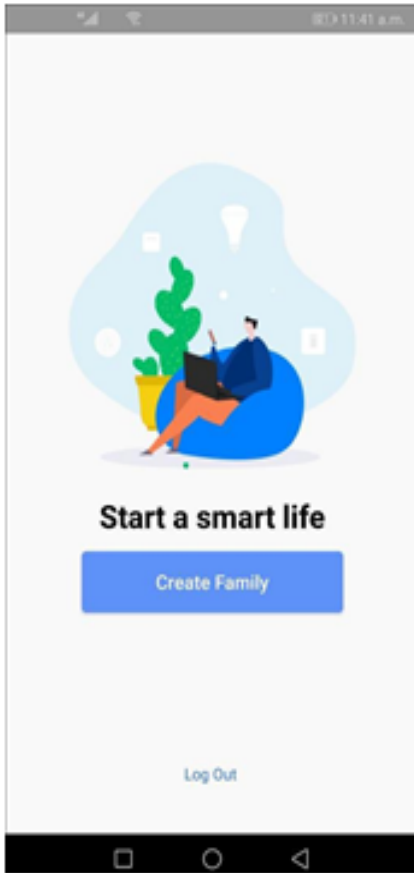
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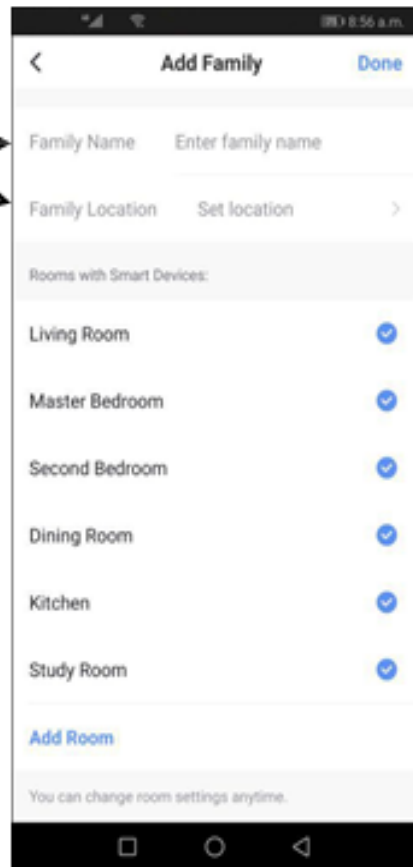


4



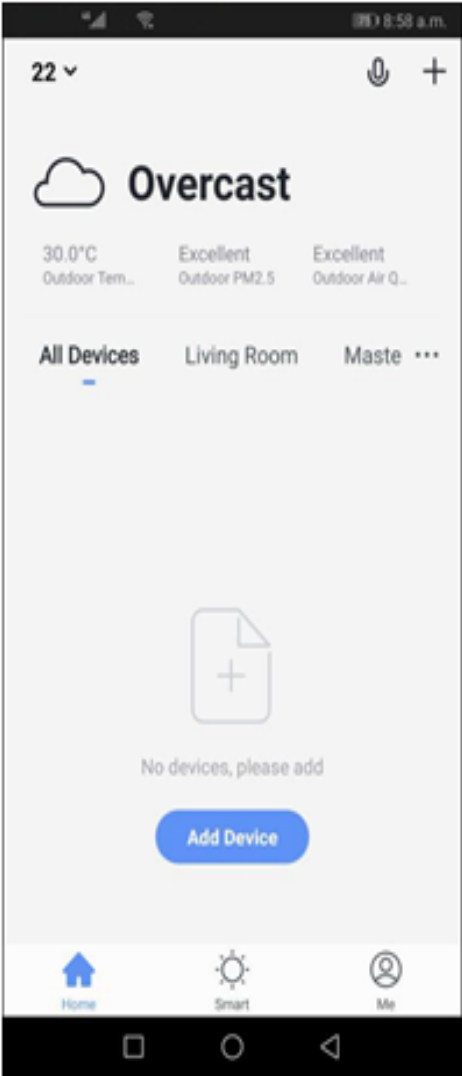
5

Input family name,  
location, rooms, then  
press "Done".

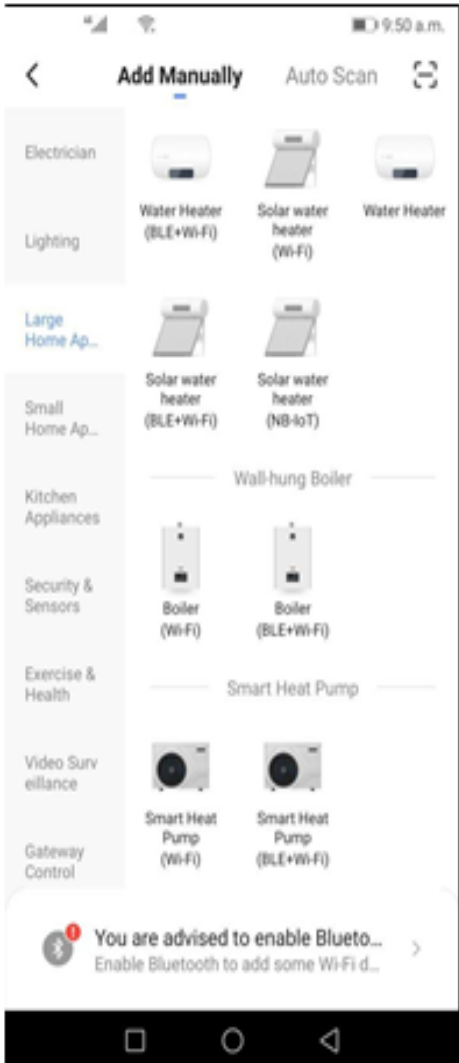


6

1. Add device



1



2

3

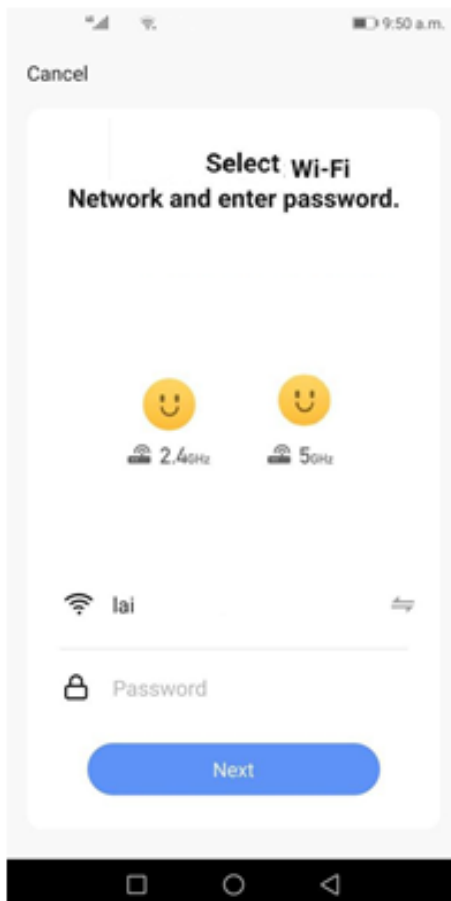
1. Press "MESH" +  
"Wi-Fi HOLD" for 5s.



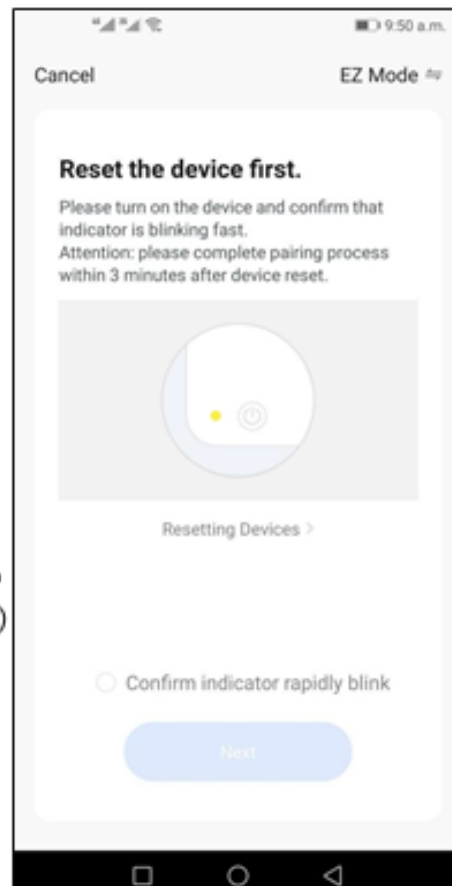
2. Flash.

Press "MESH" + "Wi-Fi HOLD" for 5s to enter the distribution network. When entering, the "Wi-Fi" icon flashes quickly.

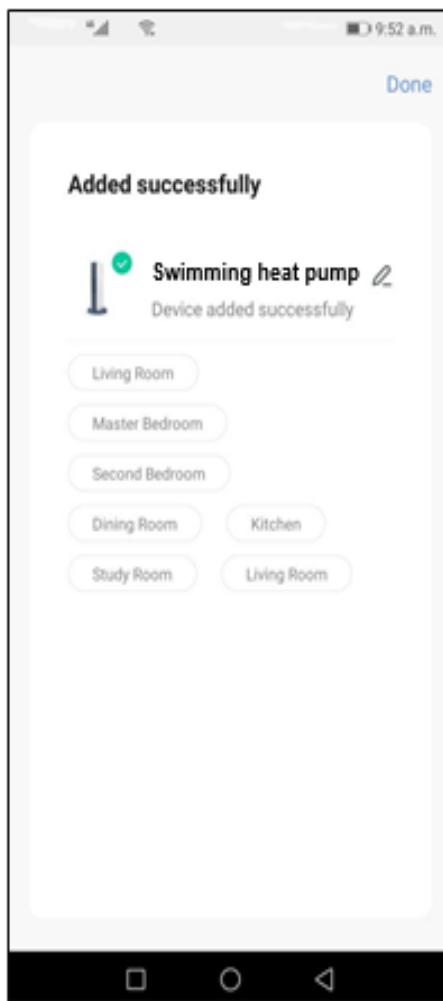
4



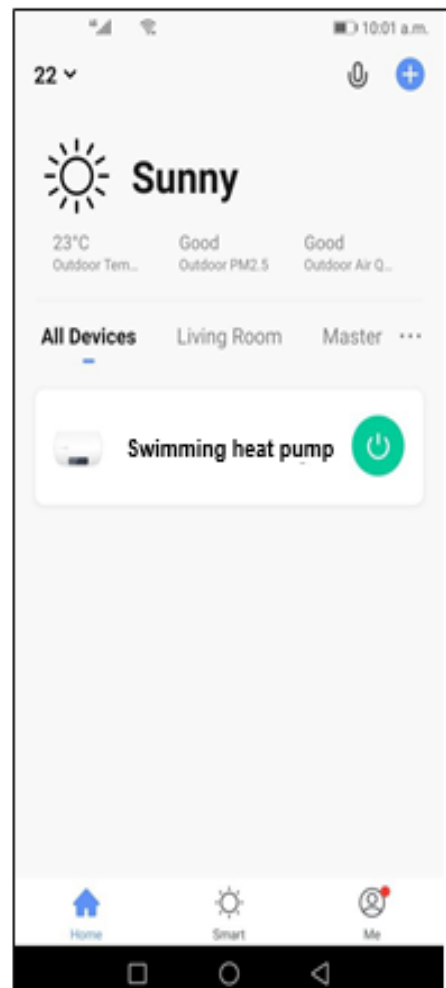
5



27



6



7

Device added successfully. Then press "Done" to enter operation interface.

## 2. Control

