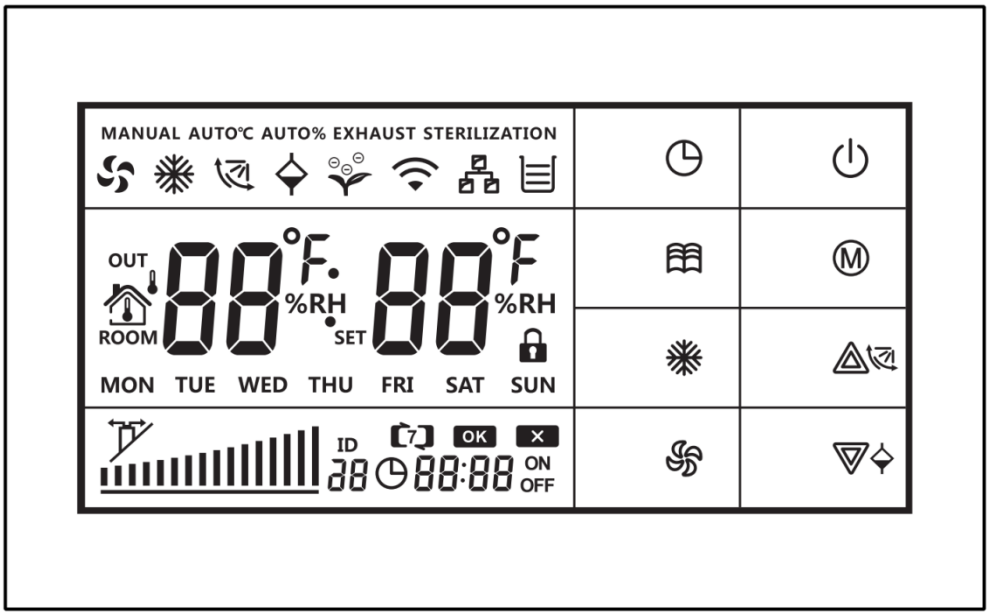
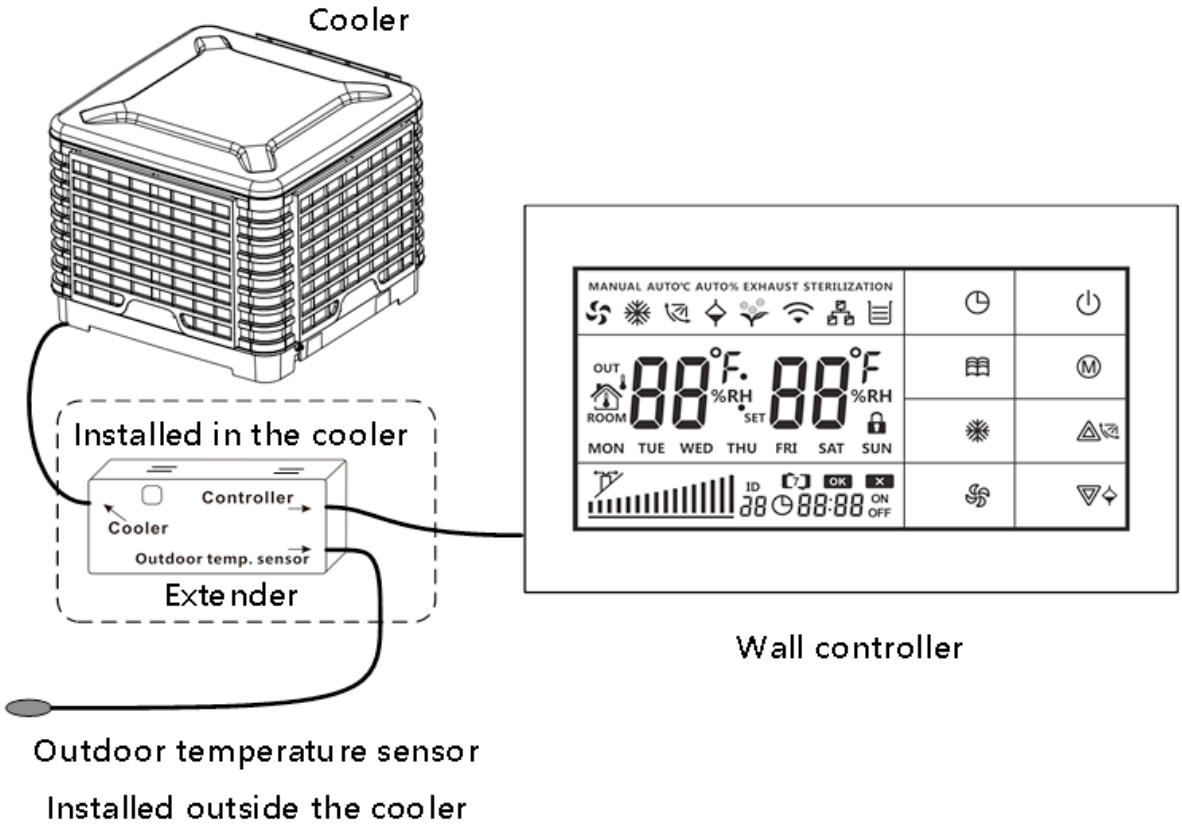
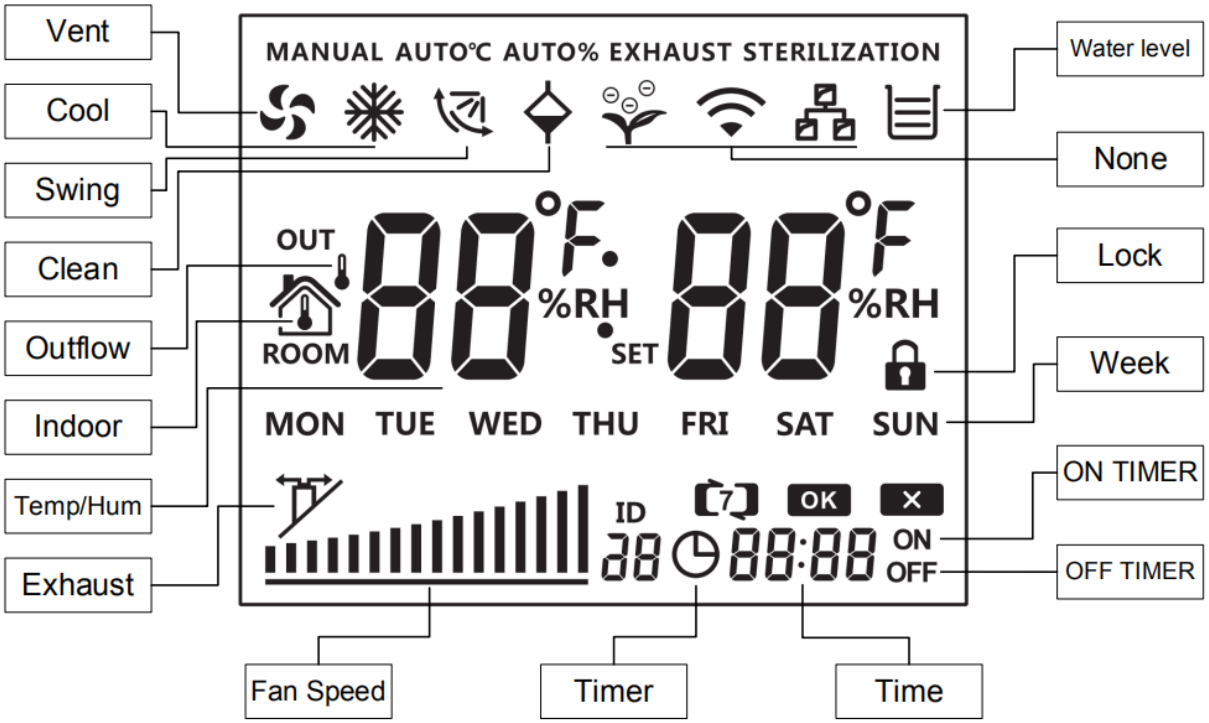
Controller F Manual



This controller needs to be connected with extender. Fix extender inside the control board box with nylon ribbon, and connect signal cable with extender as the following picture.



Screen display indication：



Button Instruction:

Button	Short Press Function	Extended Press Function
⏻	ON/OFF	Press button for 5 seconds, restore factory settings
Ⓜ	Mode	
△	Increase	Press button for 3 seconds to turn on/off swing function
▽	Decrease	Press button for 3 seconds to turn on/off drain function
◷	Timer	Press button for 3 seconds to adjust time
🕮	Setting	
❄	Cool	
🌀	Vent	

Option Instruction:

1. Turn on/off air cooler

Press ⏻ button, turn on/off air cooler

2. Setting the clock

Set the clock on the controller before proceeding with any other programs. When power on, the screen shows as Pic 2-1, the current time is 12:00. The setting as follows:

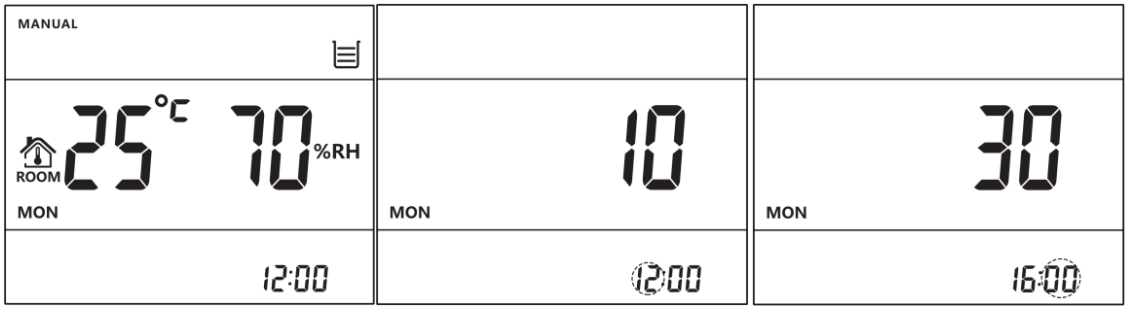
1) Press button ◷ for 3 seconds, as picture 2-1, the hour will flash, use button △ and ▽ to change hours.

2) Press button 📖 , the minute will flash, use button △ and ▽ to change minutes, as show 2-3.

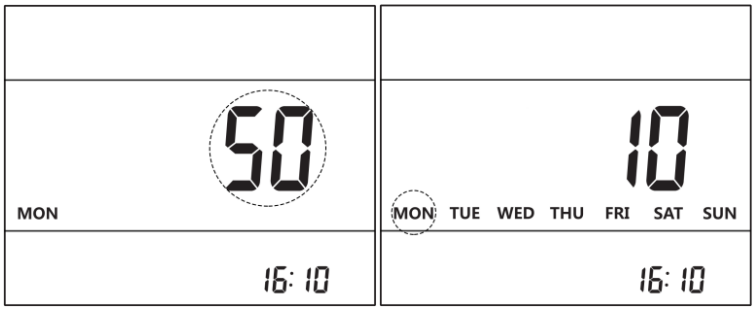
3) Press button 📖 , the second will flash, use button △ and ▽ to change seconds, as show 2-4.

4) Press button 📖 , the week will flash, use button △ and ▽ to change weeks, as show 2-5.

5) Press button 📖 one more time, week stop flash, time setting been finished.



Pic 2-1 show present time　　Pic 2-2 change hours　　Pic 2-3 change minutes



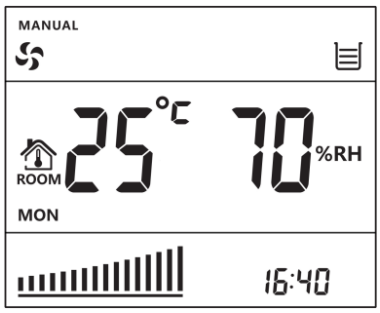
Pic 2-4 change seconds　　Pic 2-5 change weeks

3. VENT

Vent function is air been delivered into rooms, but the air doesn't been cooled.

Press button, to turn on and turn off vent function.

To increase or decrease the fan speed required, press button and .



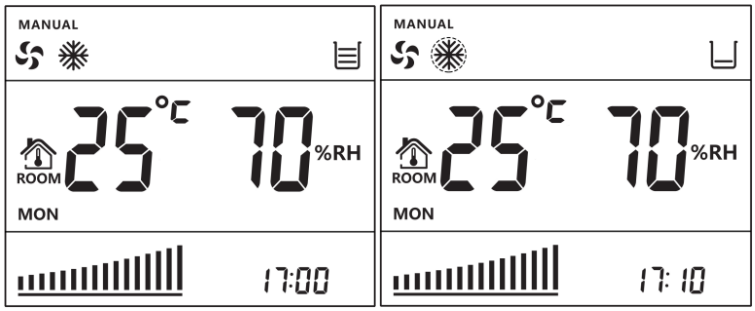
Pic 3-1 turn on vent function

4. COOL

COOL function is by pump water and wet the pad.

Press button to turn on and turn off cool function.

When user press button, if the water level is too low, the snow icon will flash to remind user the cooler is lack of water. Pump will not run while snow icon flashing. Thus there is no COOL.



Pic 4-1 turn on VENT and COOL Pic 4-2 pump stop running (water shortage)

5. CLEAN

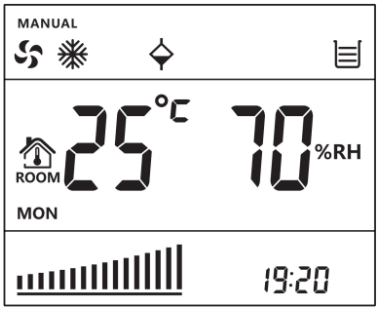
CLEAN function, means drain out the dirty water in tank, and change with clean water automatically.

Press button for 3 seconds, turn on or turn off CLEAN unction.

Press button for 3 seconds, turn on clean function, the screen shows clean icon, the drain valve drains water inside the tank, drain function runs for 4 minutes, and then off.

When draining, the water level will decline rapidly, so if the COOL function still keep on, pump will pause automatically to protect itself, and running again when DRAIN stop and

water filled enough.



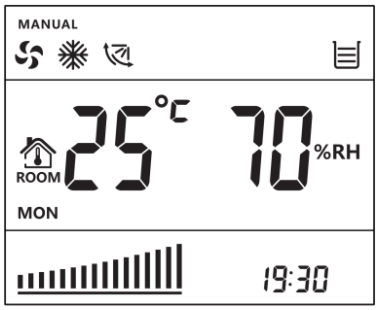
Pic 5-1 turn on VENT, COOL and CLEAN

6. SWING

Swing function means change wind direction circularly.

Note: if there is no electronic swing air diffuser connected to the control box, this function will not available.

Press button for 3 seconds, turn on and turn off swing function.



Pic 6-1 turn on VENT, COOL, and SWING

7. MODE

Press button Ⓜ to change 4 modes: MANUAL MODE, AUTO℃ MODE, AUTO% MODE and EXHAUST MODE.

If cooler without Exhaust function, press button Ⓜ to change it to MANUAL MODE, AUTO℃ MODE or AUTO% MODE.

7.1MANUAL MODE

Press button Ⓜ until MANUAL is shown on the screen, current indoor & outdoor temperature and relative humidity are also shown on the screen.

Press button to turn on and turn off vent function, the controller will show a constant fan speed.

If the water is enough in tank, press button to turn on or turn off pump.

7.2AUTO℃

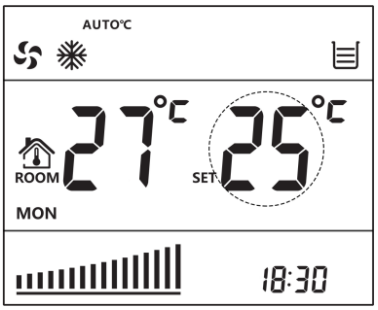
On AUTO℃ mode, controller will adjust fan speed and pump's working to keep indoor temperature same as target temperature (preset it).

When the mode switch to AUTO℃, the icons of AUTO℃, FAN and COOL will be shown on screen, FAN and COOL functions will be turned on automatically.

As shown in pic 7-1, target temperature flash, press button ▲ or ▼ to change target temperature, and then press 📖 to finish setting.

If want to change target temperature again, press button 📖 till target temperature flash, and then press 📖 to finish setting.

Note: on AUTO℃ mode, speed bar shows the highest fan speed, press button ▲ or ▼ to set highest fan speed needed. Fan speed will increase or decrease, but it will not exceed the presetting highest fan speed.



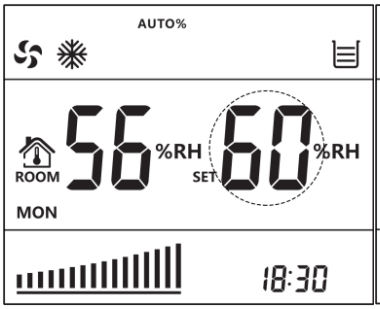
Pic 7-1 Adjust target temperature

7.3AUTO%

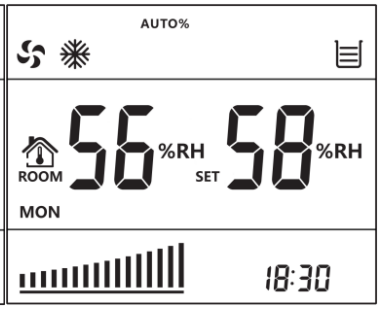
On AUTO**%** model, controller will adjust fan speed and pump's work to keep indoor humidity same as target humidity (preset it).

When the mode switch to AUTO**%**, the icons of AUTO**%**, FAN and COOL will be shown on screen, FAN and COOL functions will be turned on automatically.

As shown in pic 7-2, target humidity flash, press button ▲ or ▼ to change the target humidity, and then press 📖 to finish setting, as shown in pic 7-3.



Pic 7-2



Pic 7-3

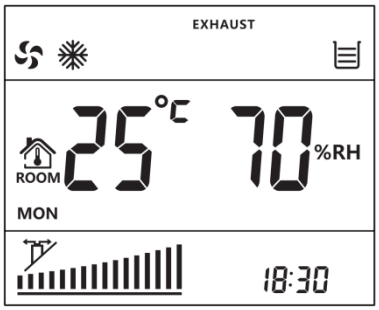
Note: on AUTO% mode, speed bar shows the highest fan speed, press button ▲ or ▼ to set highest fan speed needed. Fan speed will increase or decrease, but will not exceed the presetting highest fan speed.

7.4. Exhaust

On exhaust model, user can turn on or turn off cooler exhaust function.

Press button ▲or ▼ to increase or decrease the fan speed required.

Note 1: **Exhaust is workable only in inverter models.**
Note 2: ***In order to protect motor, when the VENT function been switched to EXHAUST, or the EXHAUST function been switched to VENT, the motor will pause for 25 seconds.***



Pic 8-5 turn on exhaust

8. TIMER

Timer function makes cooler timing turn on and timing turn off.
After timing turn on, cooler and controller will work same as the setting data before shutdown.
TIMER function is working on any modes, setting methods are same in any modes, take an example of manual mode (MANUAL), check be flowing.

8.1 TIMING TURN ON

The processes are as follows:

1) Press button ◷ as pic 8-1, timer icon (turn on 1) flash, --:-- means timing turn on function doesn't be set, (user can set 6 group time of timing turn on, press button ◷ switch to different timing group, the setting methods are same, the following is the example to set timing turn on 1.

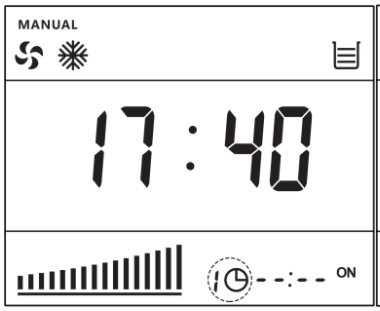
2) Press button 📖 , --:- - changes to 00:00 as pic 8-2, and the hour is flashing, use ▲ and ▼ to change hours.

3) Press button , the hour stop blinking, the minute is flashing, use and to change minutes as pic 8-3.

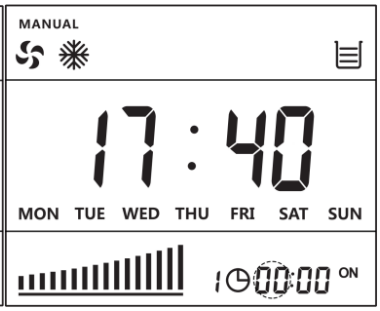
4) Press button , the minute stop blinking, OK is flashing as pic 8-4 , if confirm this time, press button to finish setting. If need to set week timer, please go on step 5.

5) When OK is flashing, use or to choose week, chosen week is flashing as pic 8-5, press button to confirm or delete the chosen week, if only choose Monday, the timing turn on is only valid on Monday. User can set several week as needed. If no week is chosen, the setting is only valid for single time, this setting will be deleted after execution.

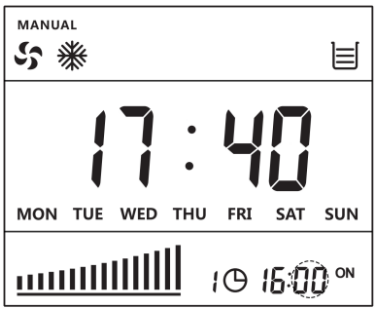
6) After setting week, use or to adjust until the iron OK flashing as pic 8-4, press button to finish setting, it shows time and 1 timer icon, remind timer has been set, like pic 8-6



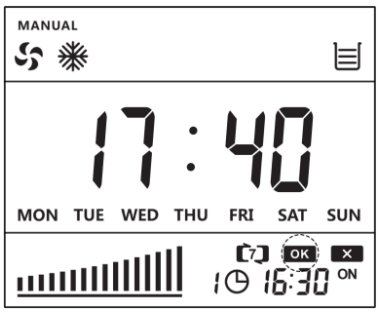
Pic 8-1 set timing turn on



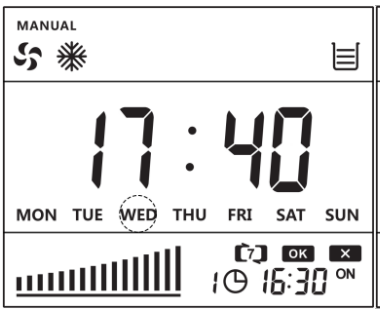
Pic 8-2 hour setting (timing turn on)



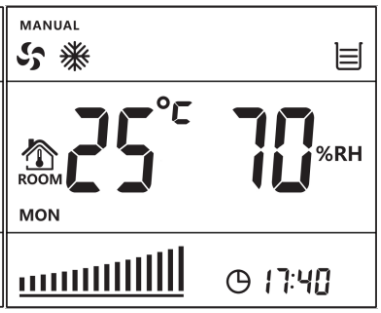
Pic 8-3 minute setting (timing turn on)



confirm time of timing turn on



Pic 8-5 set week of timing turn on



Pic 8-6 finish setting timing turn on

Pic 8-4

8.2 TIMING TURN OFF

The processes are as follows:

2) Press button as pic 8-7, timer icon (turn off 1) flash, --:-- means timing turn off function doesn't be set, (user can set 6 group time of timing turn off, press button switch to different

timing group, the setting methods are same, the following is the example to set timing turn off 1.

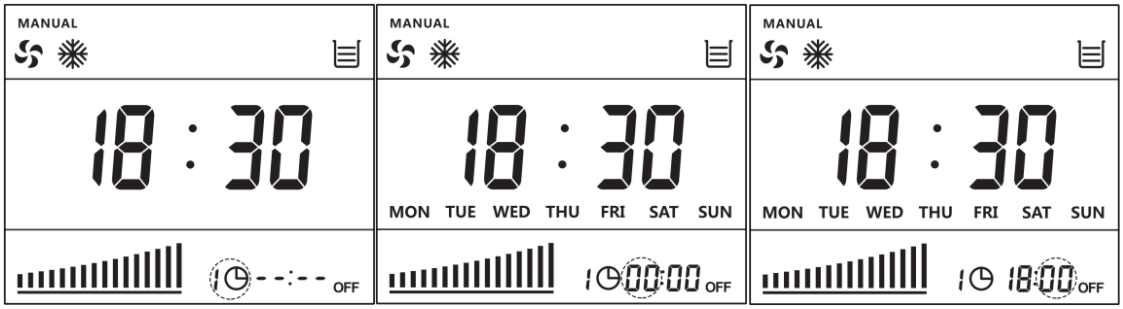
2) Press button , --:- - changes to 00:00 as pic 8-8, and the hour is flashing, use and to change hours.

3) Press button , the hour stop blinking, the minute is flashing, use and to change minutes as pic 8-9.

4) Press button , the minute stop blinking, OK is flashing as pic 8-10 , if confirm this time, press button to finish setting. If need week timer, please go on step 5.

5) When OK is flashing, use or to choose week, chosen week is flashing as pic 8-5, press button to confirm or delete the chosen week, if only choose Monday, the timing turn off is only valid on Monday. Uses can set several week as needed. If no week is chosen, the setting is only valid for single time, this setting will be deleted after execution.

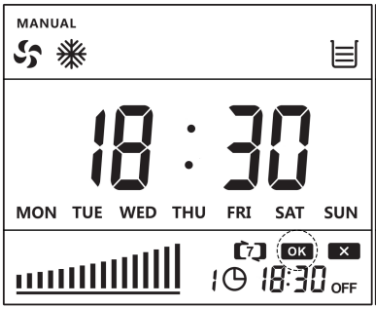
6) After setting week, use or to adjust until the iron OK flashing as pic 8-10, press button to finish setting.



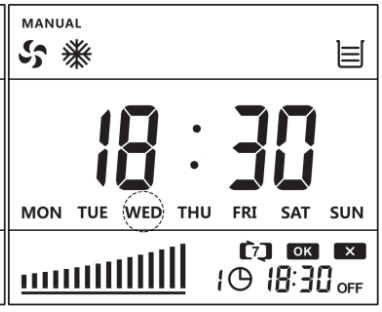
Pic 8-7 set timing turn off

Pic 8-8 hour setting (timing turn off)

Pic 8-9 minute setting (timing turn off)



Pic 8-10 confirm time of timing turn off



Pic 8-11 set week of timing turn off

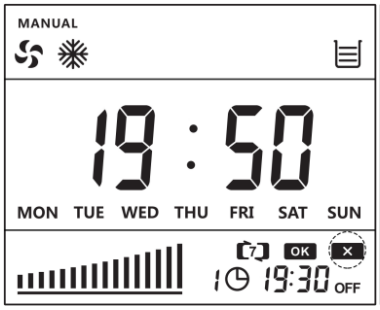
8.3 CANCEL TIMING

1. Cancel one timing group

When setting timing turn on or timing turn off, in the interface of pic 8-4 and pic 8-10, when the icon OK flashing, use ▲ or ▼ to adjust till icon ✕ to flash, as pic 8-12, then press button 📖 to cancel one timing group.

2、Cancel all timing group

In the interface of pic 8-1, extended press🕒 until the screen shows as pic 8-13, press button 📖 to cancel all timing group.



Pic 8-12 Cancel one timing group

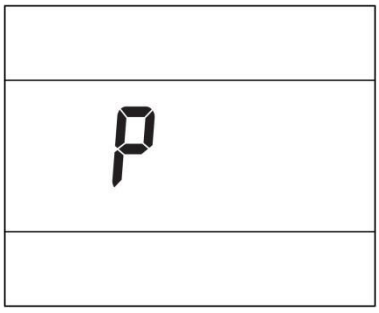
Pic 8-13 Cancel all timing group

9. Advanced settings

When cooler shutdown, press button 📖 and Ⓜ at the same time, the screen shows “P” as pic 9-1, press and hold button 📖 and Ⓜ at the same time, controller enter advanced setting.

After enter advanced setting, use ▲and▼ to choose item P01-P12, press button 📖 to choose, and use ▲and▼ to adjust more details as in the following table.

After setting all items needed, press button ⏻ to confirm or wait the operation till timeout, the setting automatically takes effect.

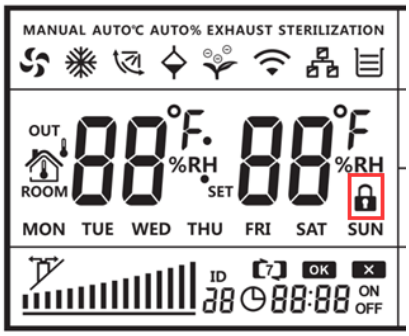


Pic 9-1

ITEM	MEANING	▲ or ▼	FACTORY DEFAULT

P01	AUTO-CLEANING	User can set it 0 ~120 hours 0 - function is off If set 8 hours, function is on after cooling for more than 8 hours	0 hour
P02	PRE-COOLING	OFF or ON	OFF
P03	INTELLIGENT CLEAN	OFF or ON	OFF
P04	SHUTDOWN CLEAN	OFF or ON	OFF
P05	AUTO START	OFF- when power on again, cooler is still off ON-when power on again, cooler keeps working as the previous status (before power off)	OFF
P06	AUTO DRAIN TIME	User can set it 60~600 seconds	240 seconds
P07	Outdoor temp function on AUTO ℃ mode	User can set it 0~30 ℃ If users set 20℃(target temp) When the target temp >= (real outdoor temperature +2℃), water pump stops working.	3℃
P08	On AUTO ℃ mode &AUTO % mode, how to control the fan speed	User can set it 0~2 On AUTO ℃ mode, when indoor temperature is lower than target temperature or On AUTO % mode, indoor temperature is higher than target temperature 0-fan speed decrease automatically 1-fan stop running 2-fan speed will not increase or decrease	0
P09	Temperature slewing error	0~10℃ On AUTO ℃ mode： Target temp**<=**indoor temp + Temp slewing error, the water pump will begin to work. Target temp**>=** indoor temp + Temp slewing error, the water pump will stop working. (Note: this setting is only workable for cooler with AUTO℃ function)	0℃
P10	Humidity slewing error	0~30% On AUTO % mode: Target hum **>=**Indoor hum **-** hum slewing error, pump will begin to work Target hum **<=**Indoor hum **+** hum slewing error, pump will stop working (Note: this setting is only workable for cooler with AUTO% function)	0%

P11	Key beep	OFF or ON	ON
P12	ID address	User can set it 0~32，0 means no setting	0
P13	Screen Lock		



When LOCK icon shows in the screen, Keystroke operation invalid.

Unlocking by press button Ⓜ for 5 seconds.

9.1.AUTO-CLEANING

When FAN and COOL functions work together for N hours (N can be set), air cooler will start CLEAN function, drain out the dirty water in tank, and change with clean water automatically. The default of Auto-cleaning cycle is 0 hour (means this function is off).

9.2.PRE-COOLING

If turn on PRE-COOLING function, water pump will work for 1 minute before fan begins to work (at this time, the icon flashing), after the cooling pad is all wet, and then the fan is working, so that fan will not bring dust into room.

(1) If the water level is too low, the water inlet valve will be on automatically.
(2) 2 minutes later, the pump will be turned on and wet pads. If the water tank cannot be added to normal level in 2 minutes, the PRE-COOLING will end automatically.
(3) 1 minute later, after pads have been fully wet and cleaned, fan will be started. The FAN icon will not flash again while PRE-COOLING end.

Note 1: PRE-COOLING will not be activated in case restart the cooler shortly after last turn off.

9.3 INTELLIGENT CLEAN

Note: This feature does not apply to all models. Only models with EXHAUST function have INTELLIGENT CLEAN FUNCTION. We suggest user consult to the dealer before operating this settings.

1) If the fan is working, user turn on EXHAUST function, the fan will turn off first, and after 25 seconds turn on EXHAUST function and drain valve automatically.

2) 4 minutes later, drain valve will turn off automatically to finish clean.

9.4SHUTDOWN CLEAN

If shutdown clean function is turned on, when cooler is off, the working status is as following:
1) All functions will be closed except the clean function, screen shows CLEAN icon.
2) 5 minutes later, cleaning function will be turned off automatically. The screen shows nothing.
Press and hold button to end clean function, to make cooler off.

9.5. **AUTO START**

If turn on AUTO START function, when power on again, cooler keeps working as the previous status (before power off). For example, if cooler is power off while fan is working, when the power on again, fan will work again automatically.

9.6 **AUTO DRAIN TIME**

Users can set time of auto drain time 60~600 seconds, when time is up, it stops draining.

9.7 **Outdoor temp function on AUTO ℃ mode**

On AUTO ℃ mode，this setting to turn on or turn off water pump by setting an target (outdoor) temperature. （as show in the above table）

9.8 **On AUTO ℃ mode &AUTO % mode, how to control the fan speed**

On AUTO ℃ mode, when indoor temperature is lower than target temperature, or on AUTO % mode, indoor humidity is higher than target humidity, the pump stops working, and the factory default is that fan speed will decrease. But user can also set it： Stop fan totally or do not change fan speed.

9.9 **Temperature slewing error**

As show in the above table.

9.10 **Humidity slewing error**

As show in the above table.

9.11 **Key beep**

Use can turn on or turn off the key beep.
Note: Turning off key beep can reduce the consumption of controller, increase the distance between cooler and controller.

9.12 **ID address**

When user want to control several coolers at the same time, user needs to set ID address of each cooler, and then connect all coolers with group controller.

10. Hint Instruction

SNOW ICON FLASHING

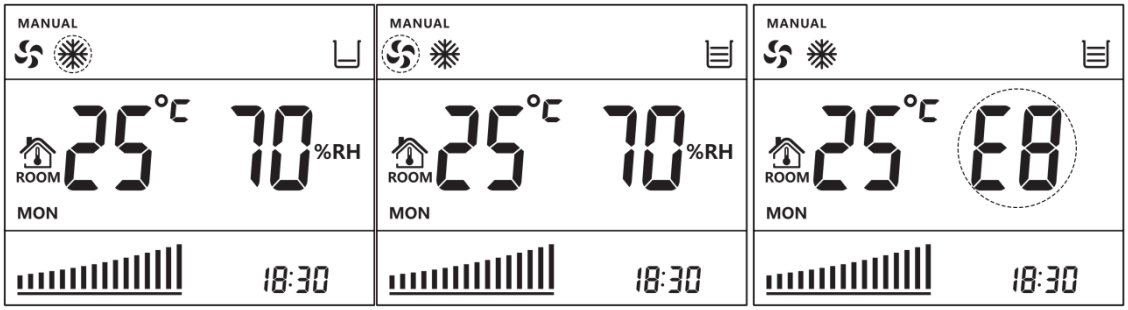
COOL icon flashing  (as shown in pic 10-1), screen show the water low water level,  indicates the water tank with low water level. Now, in order to protect water pump, pump will stop working till the water is enough inside tank.

FAN ICON FLASHING

When the FAN icon flashing  (as shown in pic 10-2), that means, the air cooler is pre-cooling, pump works for 1 minute, the FAN will be opened automatically. If the water level is too low, will add water automatically.

MALFUNCTIONS

(As shown in pic 10-3), when any malfunctions are checked, screen will show fault code to remind user, the following table is the malfunctions and solutions.



Pic 10-1 Pic 10-2 Pic 10-3

Fault Code	Explanation	Problem Cause	Solutions
E1	over-current	1.locked-totor 2.motor overload 3.motor short-circuit	Check fan
E2	over-voltage	Power grid voltage anomaly	Check power supply
E3	under-voltage	Power grid voltage anomaly	Check power supply
E4	IPM with over temperature （only for inverter models）	Poor connection between IPM and thermal sink	Check thermal sink on control board
E5	Reserved, unused		
E6	Capacitor charging failure （only for inverter models）	1.Capacitor is broken 2.IPM or bridge rectifier is broken	Change a new control board
E7		1.capacitor with bad welding	

	Low capacitor capacity （only for inverter models）	2. Low capacitor capacity 3. Power grid voltage anomaly	Check power supply/ Change a new control board
E8	connection failure	connection failure between controller and extender	Check signal cable and crystal head
E0	connection failure	connection failure between cooler and extender	Check signal cable and crystal head