USER MANUAL

WIRED CONTROLLER

RCW3

User Notice

⚠ Please carefully read these instructions before installation and use of this product.

- Ensure an even power supply for each indoor unit.
- Never install a wired controller in a wet place or under direct sunlight.
- A shielded twisted pair line must be adopted as a signal line or wiring (communication) of a wired controller when the unit is installed where there is electromagnetic interference.
- Make sure that the communication line is connected into the correct port to avoid communication malfunction.
- Never knock, throw or frequently disassemble the wired controller.
- Never operate the wired controller with wet hands.

Contents

I Displaying Part

Fig. 1 Outline of wired controller

1.1 LCD Display of Wired Controller
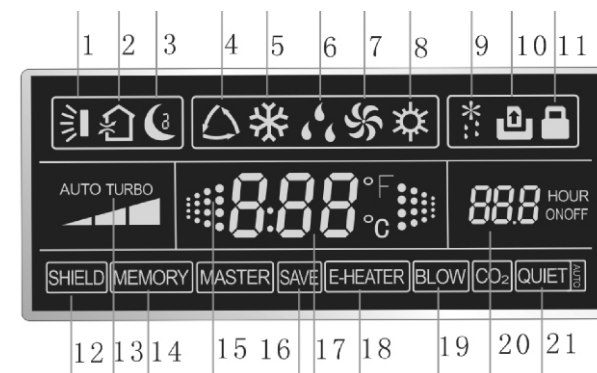
Fig.2 LCD display

1.2 Instructions for LCD Display

Table 1

No.	Description	Instruction to Displaying Contents
1	Swing *	Swing function
2	Air *	Air exchange function
3	Sleep	Sleeping states
4	Running mode	Each kind of running mode of indoor unit (auto mode)
5	Cooling	Cooling mode
6	Dry	Dry mode
7	Fan	Fan mode
8	Heating	Heating mode
9	Defrost	Defrosting state
10	Gate control card *	Gate control
11	Lock	Lock state
12	Shield	Shielding state (buttons, temperature, on/off, mode or save is shielded by long-distance monitoring
13	Turbo	Turbo function state
14	Memory	Memory state (Indoor unit resumes original setting state after power failure and then power recovery)
15	Twinkle	Flicking when unit is on without operation of buttons
16	Save	Energy-saving state
17	Temperature	Ambient/setting temperature value
18	E-Heater *	E-HEATER display means electric heater is available
19	Blow	Blow mark
20	Timer	Timer-displayed location
21	Quiet	Quiet mode (two types: quiet and auto quiet)

Notes: The functions with * are reserved for other models and are not applicable to the models listed in this manual.

II Buttons

2.1 Silk Screen of Buttons
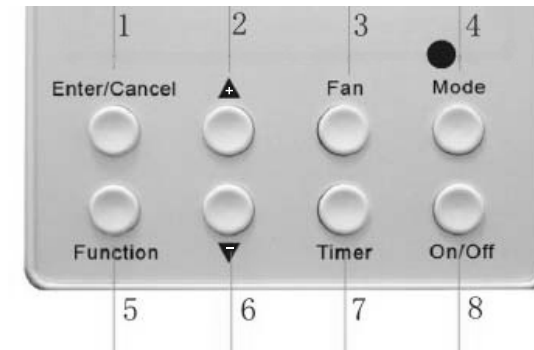
Fig. 3 Silk screen of buttons

2.2 Instructions on Function of Buttons

Table 2

No.	Description	Function of Button
1	Enter/Cancel	(1) Function selection and canceling; (2) Press it for 5 seconds to show the outdoor ambient temperature.
2	▲	(1) Running temperature setting of indoor unit, range :16～30→C
6	▼	(2) Timer setting, range: 0.5-24hr (3) Switchover between quiet/auto quiet
3	Fan	Setting of high/middle/low/auto fan speed
4	Mode	Setting of cooling/heating/fan/dry mode of indoor unit
5	Function	Switching through the functions air/sleep/turbo/save/e-heater/blow/quiet
7	Timer	Timer setting
8	On/off	Turn on/off indoor unit

4 Mode and 2 ▲	Memory function	Press Mode and ▲ for 5 seconds when unit is off to Enter/Cancel key memory function (if memory is set, indoor unit will resume the original setting state after a power failure and then power recovery. If not, indoor unit is defaulted to be off after power recovery. Memory function is defaulted to be off before outgoing.)
2 ▲ and 6 ▽	Lock	Upon startup of the unit without a malfunction or when the unit is off, press the ▲ ▽ eys at the same time for 5 seconds to enter lock mode. In this case, no other buttons will respond to pressing. Repress ▲ ▽ key for 5 seconds to unlock.
1Enter/Cancel and 4 Mode	Master/slave wired controller setting	When the unit is off, press the Enter/Cancel and Mode key at the same time for 5 seconds to go to the master/slave wired controller setting interface. A unit connected with both the master and slave controllers can assume double control.

III Installation of Wired Controller and Project Debugging
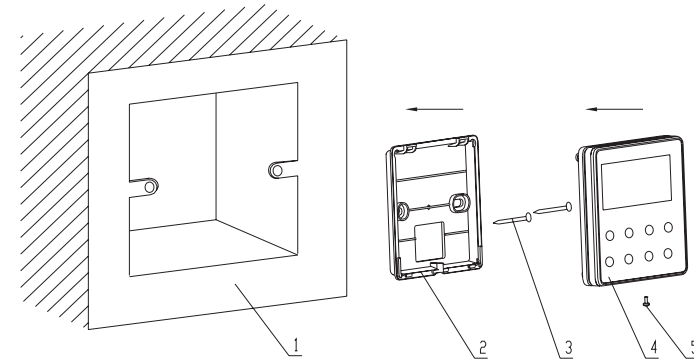
3.1 Installation of Wired Controller

Fig.4 Sketch for Installation of Wired Controller

Table 3

No.	1	2	3	4	5
Description	Socket's base box installed in the wall	Baseplate of controller	Screw M4X25	Front panel of controller	Screw ST2.2X6.5

Fig.4: Sketch for Installation of wired controller. Pay attention to the following items during installation of wired controller:

1.Cut off the power supply of the heavy-current wire embedded in the mounting hole in the wall before installation. Perform the procedure with live electricity is prohibited.

2.Pull out 4-core twisted pair line in mounting hole and then thread it through the rectangular hole at the back of controller's baseplate.

3.Attach the controller's baseplate to the wall face and then fix it in mounting hole with M4X25 screws.

4.Insert the 4-core twisted pair line through rectangular hole into controller slot and fasten the front panel and baseplate of controller together.

5.Lastly, fix the controller's front panel and baseplate with screws ST2.2X6.5.

⚠ **Caution:**

During connection of wirings, pay special attention to the following items to avoid electromagnetic interference to unit and even its failure.

1.To ensure normal communication of the unit, signal line and wiring (communication) of wired controller should be separate from power cord and indoor/outdoor connection lines. The distance between them should be maintained to a minimum of 20cm.

2.If the unit is installed at the place where there is electromagnetic interference, signal line and wiring (communication) of wired controller must be shielded by twisted pair lines.

IV Operating Instructions

4.1 On/Off

Press On/Off button to turn on the unit.
Press this button again to turn off the unit.

Note: The state shown in Fig. 5 indicates the off-state of the unit after activation.
      The state shown in Fig. 6 indicates the on-state of the unit after activation.

Fig.5 Off state of the unit   Fig.6 On state of the unit

4.2 Mode Setting

When the unit is off, press the Mode button to switch through the operation modes in the following sequence:

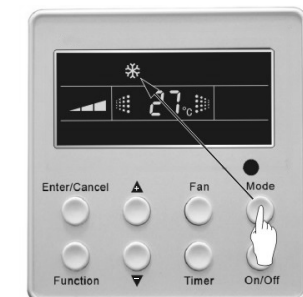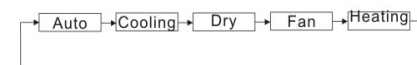Auto → Cooling → Dry → Fan → Heating

Fig.7

4.3 Temperature Setting

Press ▲ or ▼ button to increase or decrease of set temperature when the unit is on.
Pressing either button continuously will increase or decrease the temperature by 1℃
every 0.5 seconds.
In Cooling, Dry, Fan and Heating modes, the temperature setting range is 16℃～30℃.
In Auto mode, the setting temperature is not adjustable.
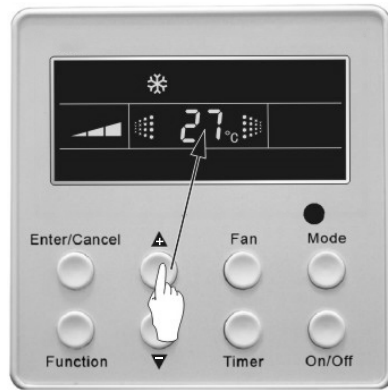As shown in Fig.8.

Fig.8

4.4 Fan Speed Setting

By press the Fan button, fan speed of indoor unit will change as below:
As shown in Fig.9.
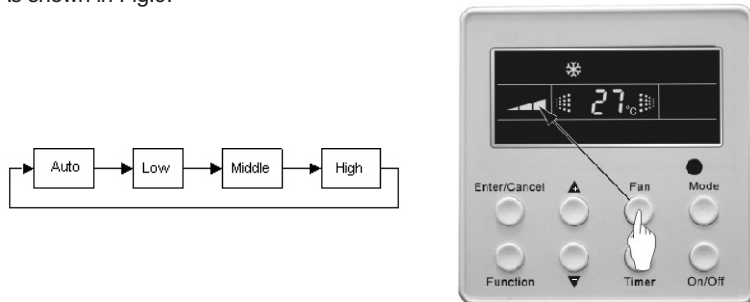
Fig.9

4.5 Swing Control Function

When the unit is on, press **Function** button until the unit shows the swing control function and then press **Enter/Cancel** button to turn on swing control function. During swing **function**, press Function button until the unit shows swing control function and then press **Enter/Cancel** button to cancel swing control function. Swing control function setting is shown in Fig. 10.
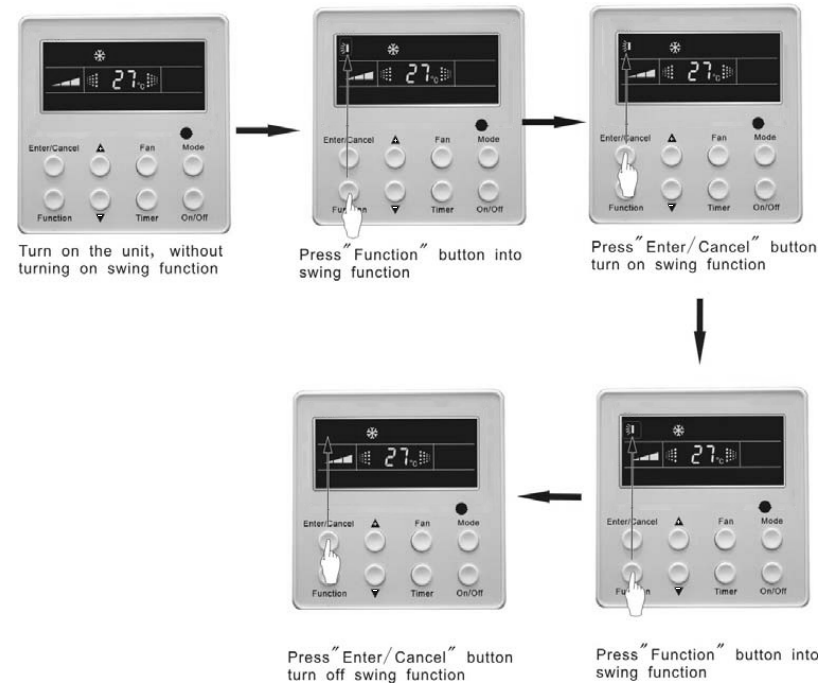
Fig. 10

4.6 Timer Setting

Press the **Timer** button to turn on the timer of the unit. When the unit is off, press the **Timer** button to turn on the timer of the unit in the same way.

Timer on setting: When the unit is off without a timer setting, if the **Timer** button is pressed, LCD will display xx. Hour, with ON blinking. In this case, press ▲ or ▼ button to adjust timer setting and then press Timer to confirm. If **Mode** button is pressed

before pressing **Timer** button to confirm, timer mode will be switched to timer off. In this case, LCD displays **xx. Hour**, with **OFF** blinking. In this case, press ⏶ or ⏷ button to adjust timer off and then press Timer to confirm. When LCD displays **xx. Hour On Off**, **xx. Hour** means time of timer on, but the time the timer turns off will not be displayed.

Timer off setting: When the unit is on without a timer setting, if the **Timer** button is pressed, LCD will display **xx. Hour**, with **OFF** blinking. In this case, press ⏶ or ⏷ button to adjust timer on and then press Timer to confirm. If the **Mode** button is pressed before pressing **Timer** button to confirm, timer mode will be switched to timer on setting mode. In this case, LCD displays **xx. Hour**, with **ON** blinking. In this case, press ⏶ or ⏷ button to adjust timer on and then press Timer button to confirm. When LCD displays **xx. Hour On Off, xx. Hour** means the time the timer turns off, but the time that the timer turns on will not be displayed.

Cancel timer: After setting of timer, if **Timer** button is pressed, LCD will not display **xx. Hour** meaning that the timer setting is cancelled.

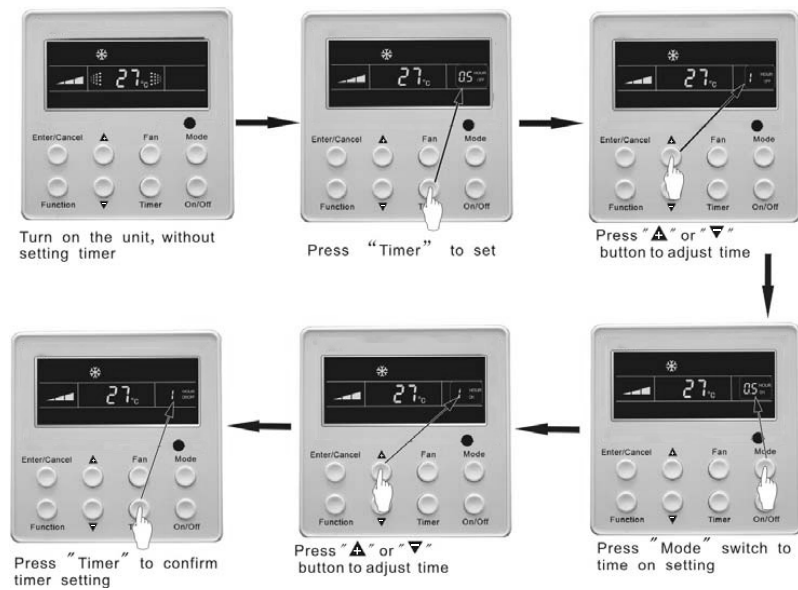Timer off setting while the unit is **on** is shown in Fig.11.

Turn on the unit, without setting timer

Press "Timer" to set

Press "⏶" or "⏷" button to adjust time

Press "Timer" to confirm timer setting

Press "⏶" or "⏷" button to adjust time

Press "Mode" switch to time on setting

Fig. 11 Timer setting under on state of the unit

Timer range: 0.5-24hr. Every press of the ⏶ or ⏷ button will increase or decrease the set time by 0.5hr. If either of them is pressed continuously, the set time will automatically increase/ decrease by 0.5hr every 0.5 seconds.

Note:

1.If both timer on and timer off are set while the unit is on, the wired controller only displays the timer off time. If both of them are set while the unit is off, only the timer on time is displayed.

2.Timer on while the unit is on is timed from the time that the unit is off, and timer off while the unit is off is timed from the time that the is unit on.

4.7 Air Exchange Setting

Turning on the air exchange function:

When the unit is on, press **Function** button to enter this function setting (**Air** mark blinks). AIR 1 displayed at the ambient temperature displayed location (888) is the default (the last type of AIR will be displayed after adjustment). Press the ⏶ or ⏷ button to adjust air type. Press **Enter/Cancel** button to turn on/off air function. After turning on this function, the air mark shows.

There are 10 types of AIR, but only 1-2 types are for remote control. Refer to the following details:

1⸺The unit continuously runs for 60min, and fresh air valve runs for 6 min.
2⸺The unit continuously runs for 60min, and fresh air valve runs for 12 min.
3⸺The unit continuously runs for 60min, and fresh air valve runs for 18 min.
4⸺The unit continuously runs for 60min, and fresh air valve runs for 2 4 min.
5⸺The unit continuously runs for 60min, and fresh air valve runs for 30 min.
6⸺The unit continuously runs for 60min, and fresh air valve runs for 36 min.
7⸺The unit continuously runs for 60min, and fresh air valve runs for 42 min.
8⸺The unit continuously runs for 60min, and fresh air valve runs for 48 min.
9⸺The unit continuously runs for 60min, and fresh air valve runs for 54 min.
10⸺The unit continuously runs for 60min, and fresh air valve always runs.

Turning off the air exchange function:

During the AIR function, press **Function** button to go to the **Air** function. In this

case, Air mark blinks. Then press the **Enter/Cancel** button to turn off this function. **Air** mark will subsequently disappear.

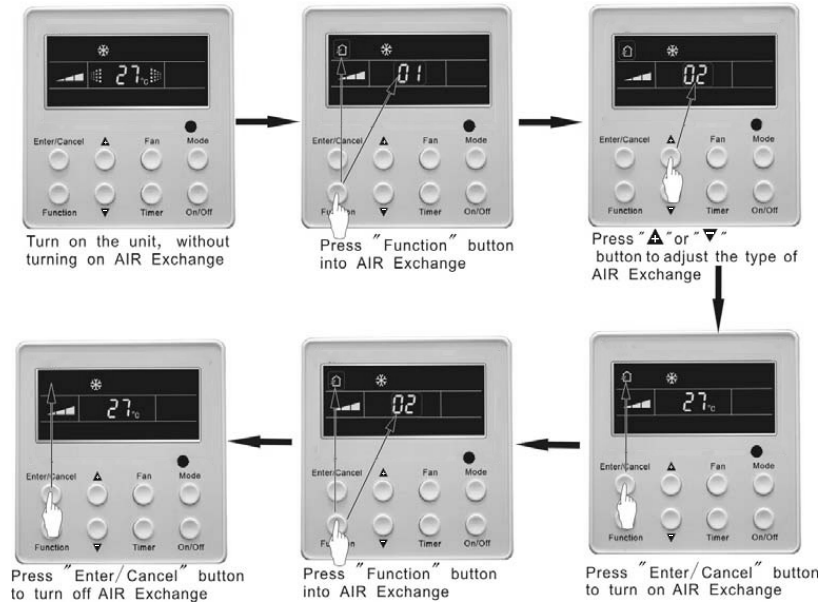Air Exchange setting is shown in Fig. 12.:

Fig.12 Air exchange device

Note: In air exchange mode, by pressing the Function button or when there is no operation within 5 seconds after the last button press, the system will quit the air exchange setting and the current energy saving data will not be stored in memory.

4.8 Sleep Setting

Sleep on: Press Function button when the unit is on until reaching sleep function and then press Enter/Cancel button to turn on sleeping function.

Sleep off: During sleep function, press the Function button to go to the sleep function and then press Enter/Cancel button to turn off this function.
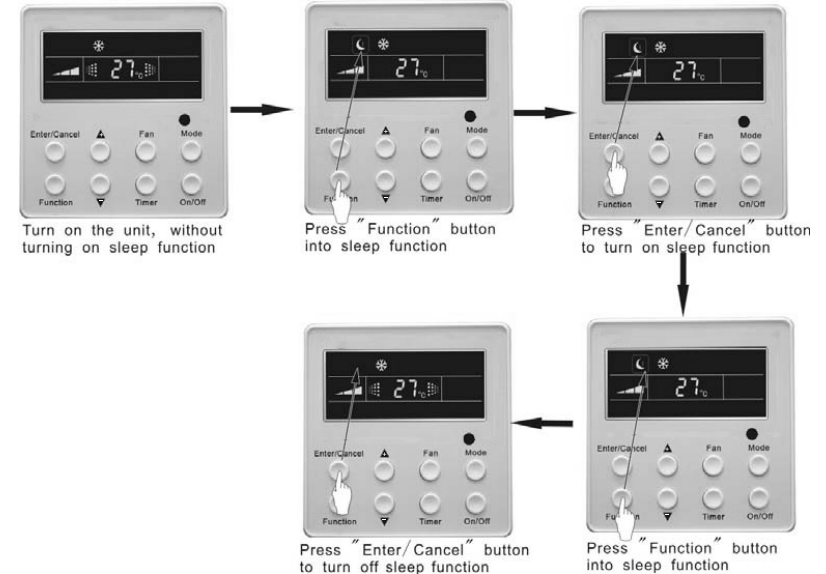
Sleep setting is shown as Fig.13:

Fig.13 Sleep setting

Sleep setting is cleared after a power failure and then power recovery. There is not sleep function in fan or auto mode.

Note: In cooling and dry mode, if unit with sleep function has run for 1 hour, the preset temperature will be increased by 1℃ then 1℃ in another 1 hour. After that, the unit will run at this temperature. In heating mode, if the unit with sleep function has run for 1 hour, the preset temperature will be decreased by 1℃ and then 1℃ in another 1 hour. After that, the unit will run at this temperature.

4.9 Turbo Function Setting

TURBO function: At high run speed, the unit can achieve quick cooling or heating so that room temperature can quickly approach the set temperature.

In cooling or heating mode, press **Function** button until the unit shows **TURBO** function and then press **Enter/Cance**l button to turn on **TURBO** function.

During **TURBO** function, press **Function** button until the unit shows **TURBO** function and then press **Enter/Cancel** button to turn off **TURBO** function.
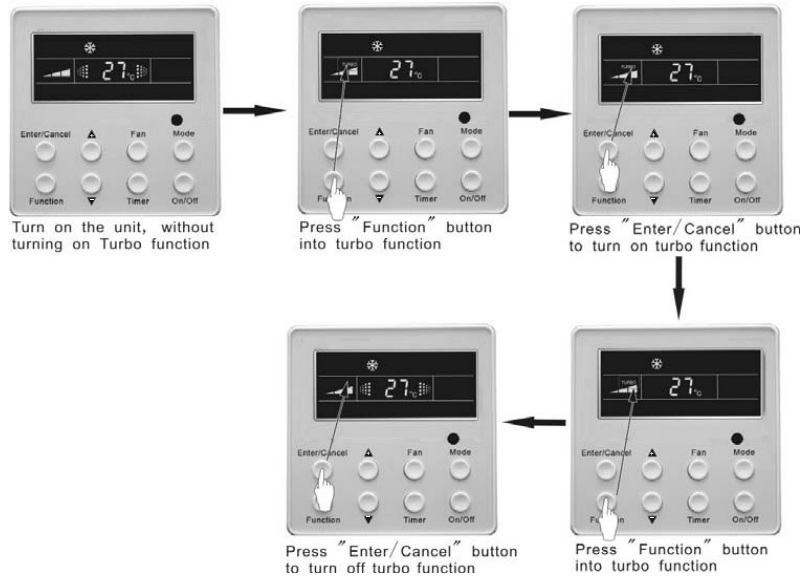
TURBO function setting is shown in Fig.14：

Turn on the unit, without turning on Turbo function

Press "Function" button into turbo function

Press "Enter/Cancel" button to turn on turbo function

Press "Enter/Cancel" button to turn off turbo function

Press "Function" button into turbo function

Fig.14 Turbo Function Setting

Note:

1.**TURBO** function will be turned off after power failure followed by recovery. In Dry, Fan and Auto modes, **TURBO** function cannot be set and the **TURBO** mark will not be displayed.

2.**TURBO** function will be automatically turned off after setting of quiet function.

4.10 Save Function Setting

Energy Saving Function: Energy saving can make the air conditioner run at a smaller temperature range by setting lower limited value of setting temperature in cooling or dry mode and upper limited value in heating mode.

Energy saving setting for cooling

When the unit is on and in cooling or dry mode, press the **Function** button until you reach the energy saving function, with **SAVE** blinking .Press ▲ or ▼ button to adjust lower limited value of the set temperature in cooing mode. After that, press the **Enter/Cancel** button to turn on the energy saving function for cooling.

Energy Saving Setting for Heating

When the unit is on and in heating mode, press the **Function** button until reaching energy saving function, with **SAVE** blinking. Press the **Mode** button until reaching energy saving function for heating and then press ▲ or ▼ button to adjust upper limited value of the set temperature in heating mode. After that, press the **Enter/Cancel** button to turn on energy saving function for heating.

After the energy saving function is on, press the **Function** button to reach the energy saving function and press **Enter/Cancel** to turn off this function.
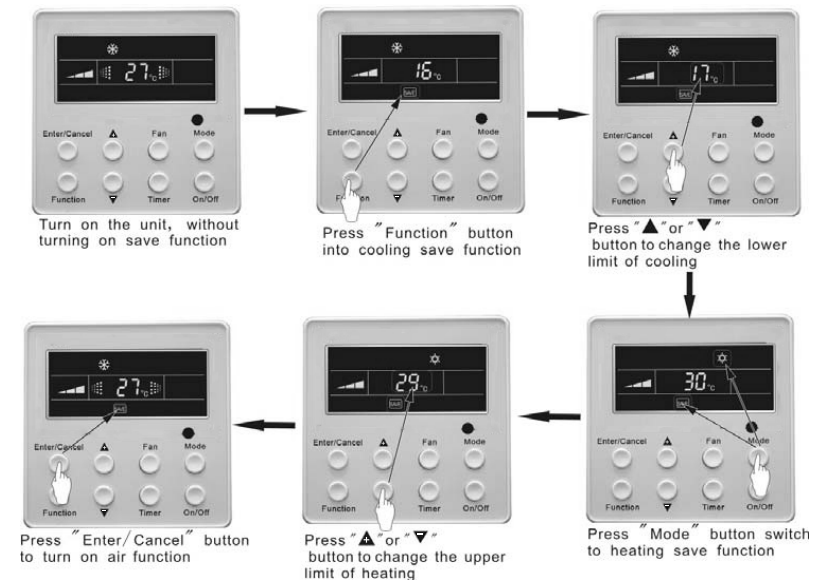
The energy saving setting is shown in the fig.15：

Turn on the unit, without turning on save function

Press "Function" button into cooling save function

Press "▲"or "▼" button to change the lower limit of cooling

Press "Enter/Cancel" button to turn on air function

Press "▲"or "▼" button to change the upper limit of heating

Press "Mode" button switch to heating save function

Fig.15 Energy Saving Setting

Note:

1.In Auto running mode with the save function on, the unit will be forcibly quit Auto running mode and change to current operation mode. After setting of save, sleep function will be cancelled.

2.In Save mode, if the **Function** button is pressed or if there is no operation within 5 seconds of the last button press, the system will quit the Save function setting and current data will be memorized.

3.After a power failure and recovery, the save function setting will be stored in memory.

4.The lower limit value in cooling mode is 16℃ and the upper limit value in heating mode is 30℃.

5.After the save setting, if the setting temperature is out of range in this mode, the limit value will

4.11 E-heater setting

E-HEATER: In heating mode, E-heater may be turned on for improvement of efficiency.

If heating mode is turned on by button operation, the auxiliary electric heating function will be automatically turned on.

Press the **Function** button in heating mode to go to the auxiliary electric heating function, with the **E-HEATER** blinking. Then press **Enter/Cancel** button to turn on this function. In this case, the **E-HEATER** will be displayed, which means **E-heater** is allowed to be turned on.

If auxiliary electric heating function is on, press the **Function** button to confirm or press the **Enter/Cancel** button to cancel. In this case, **E-HEATER** will not be displayed, which means E-heater must not be turned on.

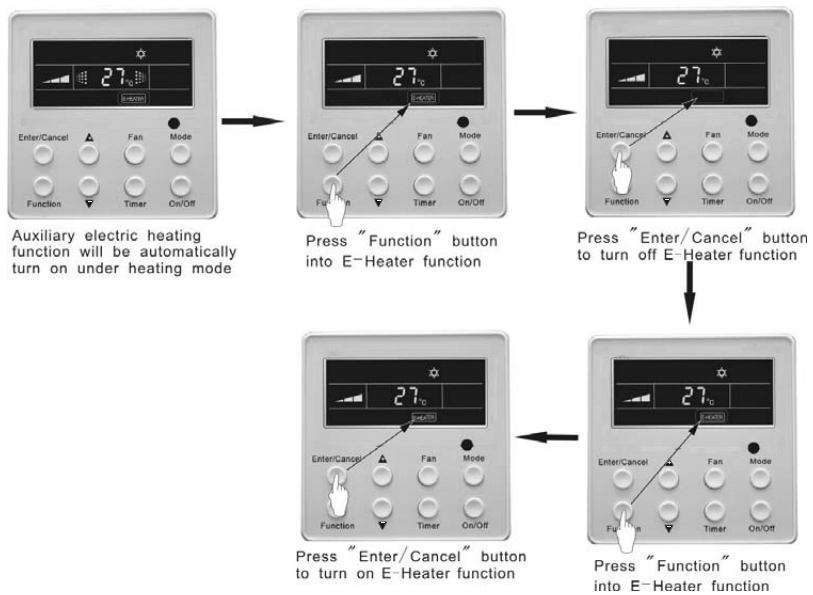The setting of this function is shown in Fig. 16 below:

Fig. 16 Auxiliary Electric Heating Function Setting

Note:
E-HEATER cannot be set in cooling, dry or fan mode. The **E-HEATER** mark won't be displayed. The setting is shown in Fig. 4.4.11.

4.12 Blow Function Setting

BLOW function: After the unit is turned off, water in the evaporator of the indoor unit will be automatically evaporated to avoid mildew.

In cooling or dry mode, press the **Function** button until the unit shows the BLOW function, with **BLOW** blinking, and then press the Enter/Cancel button to turn on this function.

In BLOW mode, press the **Function** button till the unit shows the **BLOW** function and then press the **Enter/Cancel** button to cancel this function.

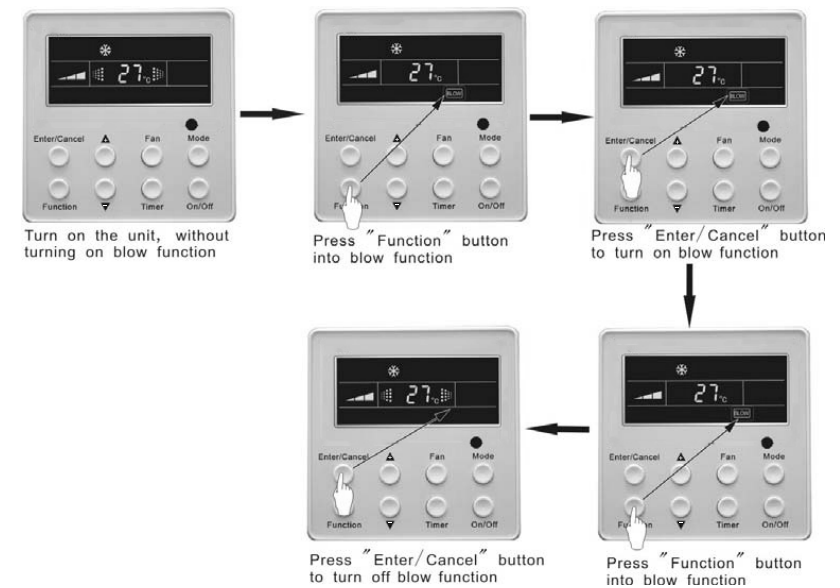BLOW function setting is shown in Fig.17

Fig. 17 Blow function setting

Note:

1.After setting the BLOW function, turn off the unit by pressing the On/Off button on the remote controller. The indoor fan will run at a low fan speed for 10 min. (BLOW shows). Meanwhile, if the BLOW function is turned off, the indoor fan will turn off directly.

2.There is not BLOW function in fan or heating mode.

4.13 Quiet Function Setting

Quiet function consists of two kinds: QUIET and AUTO QUIET.

Press the **Function** button till the unit shows the quiet function setting state. **Quiet** or **Auto Quiet** mark blinks. In this case, press $\triangle$ or $\triangledown$ button to switch between Quiet and Auto Quiet and then press Enter/Cancel button to turn on this function.

In quiet mode, press the Function button till the unit shows the quiet function. In this case, the **Quiet or Auto Quiet** icon blinks and then press **Enter/Cancel** button to cancel this function.

Quiet function setting is shown in Fig.18

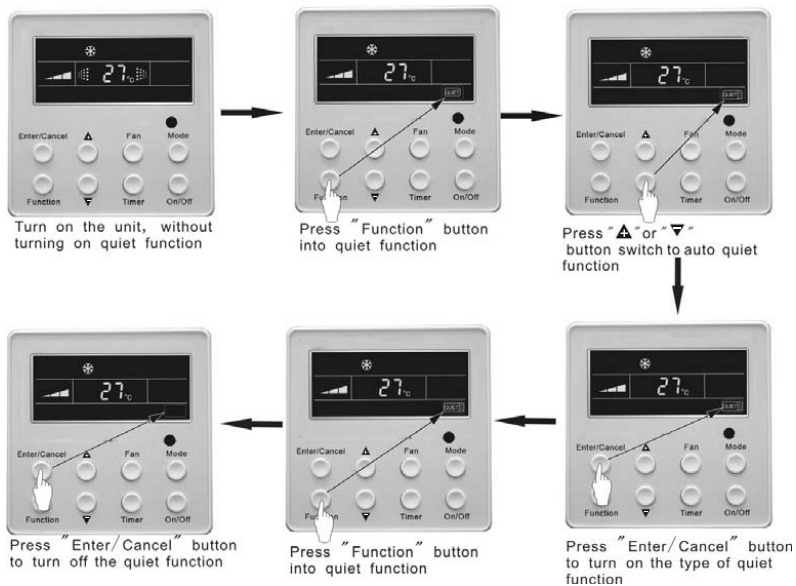Fig. 18 Quiet function setting

Note:

1.During quiet function, fan speed cannot be adjusted.

2.When turning on auto quiet function, the unit will enter a quiet running state according to the temperature difference between room temperature and the set temperature. In this case, the fan speed is adjustable. If the temperature difference between room temperature and the set temperature is 4℃ or more, the fan will maintain its current speed; if 2℃≤temperature difference ≤3℃, the fan speed will be reduced by one grade, but if it is at minimum grade, it cannot be adjusted. If the temperature difference is 1℃ or less, fan speed will be at minimun grade.

3.In auto quiet mode, fan speed cannot be increased but can be decreased. If fan speed is manually increased, auto quiet mode will quit.

4.There is not auto quiet function in fan or dry mode. Quiet off is the default setting after a power failure followed by power recovery.

5.If the quiet function is set, the turbo function will be cancelled.

4.14 Field Functions

When the unit is off, press the **Function** and Timer buttons continuously for 5 seconds to enter the debugging menu. Press the **Mode** button to adjust the setting items and $\triangle$ or $\triangledown$ button to set the actual value.

4.14.1 Ambient Temperature Sensor Setting

In field setting mode, press the **Mode** button to adjust the temperature displayed location, displaying 00, and press $\triangle$ or $\triangledown$ button to adjust the setting state at the timer displayed location. There are 3 types for selection:

⑴ Indoor ambient temperature is that at the return air inlet (01 is displayed at timer displayed location)

⑵ Indoor ambient temperature is that at the place of screen (02 is displayed at timer displayed location)

⑶ Return air inlet temperature sensor is selected for cooling, dry and fan modes and wired controller temperature sensor (03 is displayed at timer displayed location) is selected for heating and auto modes.

4.14.2 Three Grades of Speed for Indoor Fan

In field setting mode, press the **Mode** button to adjust the temperature displayed location displaying 01 and press the ▲ or ▼ button to adjust setting state at timer displayed location. There are 2 types for selection:

⑴ 3 low grades (LCD displays 01)

⑵ 3 high grades (LCD displays 02)

4.15 Other Functions

4.15.1 Lock Function

Upon startup of the unit without a malfunction or when the unit is off, press the ▲ and ▼ buttons at the same time for 5 seconds until the wired controller enters its lock state. In this case, LCD displays 🔒 . After that, press again these two buttons at the same time for 5 seconds to quit lock state.

When locked, other buttons will not respond to pressing.

4.15.2 Memory Function

Memory switchover: When the unit is off, press the Mode and ▲ buttons at the same time for 5 seconds to switch memory modes. In memory setting mode, Memory will be displayed. If this function is not set, the unit will be off after a power failure followed by power recovery.

Memory recovery: If memory mode has been set for wired controller, after a power failure the wired controller will resume its original running state upon power recovery.

Note:

It will take about 5 seconds to save all the information. Therefore, please do not turn off the power at this time, or it may fail.

4.15.3 Enquiry of Outdoor Ambient Temperature

When the unit is on or off, press **Enter/Cancel** button for 5 seconds. Outdoor ambient temperature will be displayed at temperature displaying location a click sound. This enquiry state may be quit by pressing any button. If there is no operation for 20 seconds, it will automatically quit.

Note:

1.This function will be shielded after activation for 12 hours for some models of the units without outdoor ambient sensors. Please refer to instructions for details.

2.If an outdoor ambient sensor malfunctions, this function will be shielded for 12 hours.

4.15.4 Selection of Centigrade and Fahrenheit

When the unit is off, press Mode and ▼ at the same time for 5 seconds. The display panel will switch between Centigrade and Fahrenheit.

4.15.5 Master/Slave Wired Controller Setting

When the unit is off, press "Enter/Cancel" and "Mode" at the same time for 5 seconds to go to the master/slave wired controller setting interface, then press ▲ or ▼ to make the adjustment. In this case, only the temperature display shows numbers, 01 for the master wired controller and 02 for the slave wired controller.

After that, press "Enter/Cancel" to save the setting and quit this interface. If there is no operation for 20 seconds on this interface after the last button is pressed, the system will quit automatically to the normal off status without saving the current setting.

Note: If there is only one wired controller, only it can be set as the master; otherwise the unit will not

∨ **Error Display**

If there is malfunction during the operation of the system, the LCD will display an error code at the temperaturedisplayed location. Once there is more than one malfunction, error codes will be displayed cyclically. If there are multiple circuit systems, the system number of failed system will be displayed before the colon (not for a single system).

If a malfunction occurs, turn off the unit and contact your nearest dealer for help.

As an example Fig.19 shows high pressure protection of system 2 while unit is on.

Error code meanings:

Table4

Error code	Malfunction
E0	Water pump malfunction
E1	High pressure protection of compressor
E2	Indoor anti-freezing protection
E3	Low pressure protection of compressor
E4	High discharge temperature protection of compressor
E5	Compressor overload protection
E6	Communication malfunction
E8	Indoor fan motor protection
E9	Water overflow protection
F0	Indoor unit ambient sensor malfunction at air return opening
F1	Evaporator sensor malfunction
F2	Condenser sensor malfunction
F3	Outdoor unit ambient temperature sensor malfunction
F4	Discharge temperature sensor malfunction
F5	Ambient sensor malfunction on Displayer (or LED board)
FF	Switches in slave rooms have not been opened