

User Manual

ENGLISH

Central Wired Control

RCW4



User Notice

- All indoor units must be powered uniformly.
- Never place the wired control under direct sunlight or in a damp environment (for example, a laundry room). The wired controller must be in accordance with national wiring regulations.
- Provided that the air conditioner is installed where it would be affected by electromagnetic interference, the signal line and communication line must be shielded twist pairs.
- The wired controller is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are under supervision or have been given instructions concerning use of the wired controller by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the wired controller.
- Ensure that the communication line is connected with the proper port; otherwise it will generate a communication error.
- Never knock on, throw, or frequently detach the wired controller.
- Never operate the wired controller with wet hands.

Content

1. General Introduction	1
1.1 Function Introduction.....	1
1.2 Communication Network.....	1
1.2.1 Unit Connections	1
1.2.2 Integration of the Central Wired Controller and Long-distance Monitoring System/ Centralized Controller	2
2. LCD.....	2
2.1 Outline of the LCD	2
2.2 Introduction to Symbols on the LCD.....	3
3. Buttons	4
3.1 Outline of Buttons.....	4
4. Control Flow Chart	5
5. Operating Status View of the Indoor Unit and Control Mode	6
5.1 Operating Status View of the Indoor Unit	6
5.2 Control Mode	6
5.2.1 Single Control.....	6
5.2.2 Centralized Control	7
5.2.3 All on/All off	8
5.3 Control Setting	8
5.3.1 On/Off.....	8
5.3.2 Mode.....	9
5.3.3 ▲/ ▼	9
5.3.4 Fan	10
5.3.5 Timer	10

5.3.6 Time.....	16
5.3.7 Shield.....	18
5.3.8 Child Lock.....	25
5.3.9 Switching between Celsius and Fahrenheit.....	26
6 Error Display	26
7 Installation and Debugging	29
7.1 Installation.....	29
7.1.1 Installation Dimension Diagram.....	29
7.1.2 Interfaces	29
7.1.3 Preparation and Connection of the Communication Line	30
7.1.4 Installation.....	30
7.2 Unit Matching.....	32
7.3 Debugging and Viewing the Port No. and the Indoor Unit Address.....	32
7.4 Labeling	33

1. General Introduction

1.1 Function Introduction

The central wired controller is intended for multi VRF units and duct type units, capable of controlling up to 3 sets of multi VRF units and multi sets of duct type units with a maximum of 16 indoor units.

The central wired controller enables viewing and controlling of the indoor unit operating parameters, including on/off, operating mode, fan speed, etc. The controller implements the single control and centralized control and can also set the weekly timer and long-distance shielding, allowing for convenient control of the air conditioning system.

- a. Single control: designed to control the operating parameters of an individual, designated indoor unit.
- b. Centralized control: designed to control the operating parameters of all indoor units at the same time.
- c. Shielding under single or centralized control: designed to shield the operating parameters of the indoor unit.
- d. Weekly timer under single or centralized control: designed for remote controlled start/stop programming of the unit.
- e. Clock: Designed for setting and display of the current weekday, hour and minute.

Following controller debugging completion, the debugger can check the on-line indoor units and display the parameter settings of the current operating mode: set temperature, fan speed, weekly timer, shielding function, etc. When an error occurs, the error symbol and the error code will be displayed to warn for the need for immediate maintenance.

The central wired controller can be connected to the unit through the communication line without the need for the communication module, immensely easing and simplifying the installation.

This central wired controller can be integrated with the long-distance monitoring system and the centralized controller (it indicates the controller that should be equipped with the communication module). The control of the long-distance monitoring system and the centralized controller take priority over that of the smart zone controller.

1.2 Communication Network

1.2.1 Units Connections

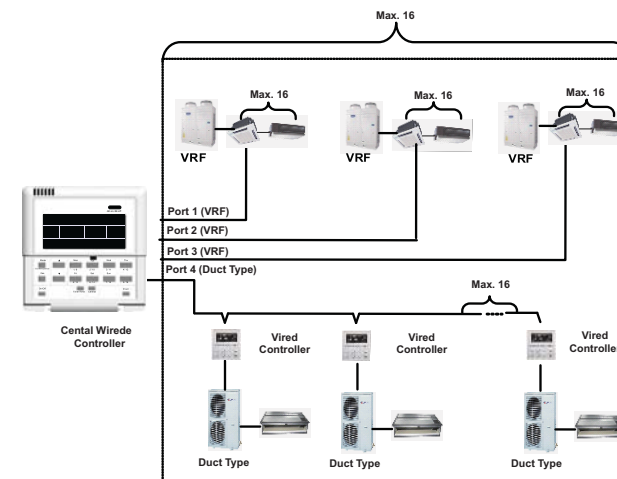


Fig. 1.1 Unit Connection Diagram

Note: the central wired controller can connect with a maximum of three sets of multi VRF units and multiple duct type units, however, the total of the indoor units of all four ports may not exceed 16.

1.2.2 Integration of the Central Wired Controller and Long-distance Monitoring System/ Centralized Controller.

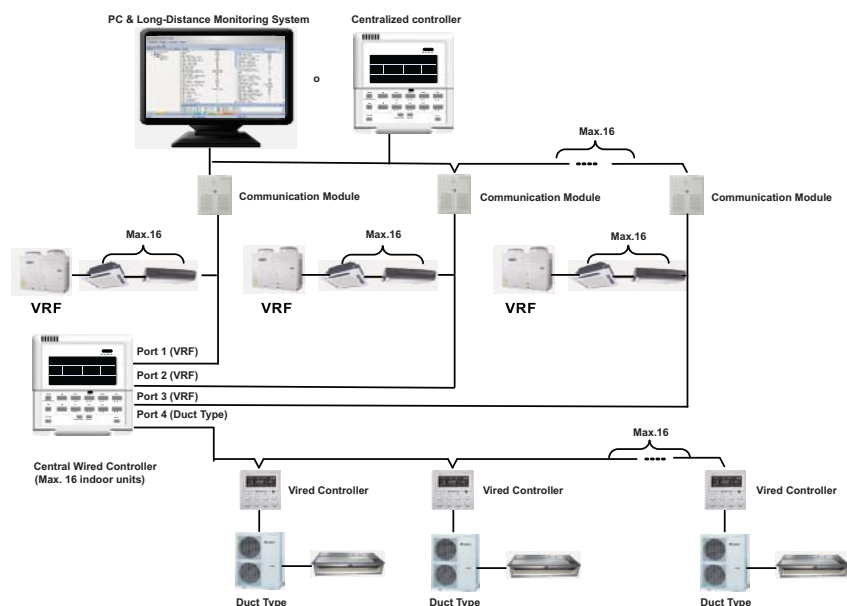


Fig.1.2 Connection of the Central Wired Controller and the Long-distance Monitoring System/Centralized Controller

Notes:

- ① Only the multi VRF units can be integrated with the long-distance monitoring system/centralized controller.
- ② If the shielding function has been set neither for the Central Wired controller nor for the long-distance monitoring system/the centralized controller, the Central Wired controller will be fully compatible with the long-distance monitoring system/the centralized controller. The Central Wired's control will be inferior to that of the latter's control.
- ③ When the shielding function has been set for both the central wired controller and the long-distance monitoring system/the centralized controller, the Central Wired controller can only be used to view the status of the unit; its control function will be rendered ineffective.

2. LCD

2.1 Outline of the LCD

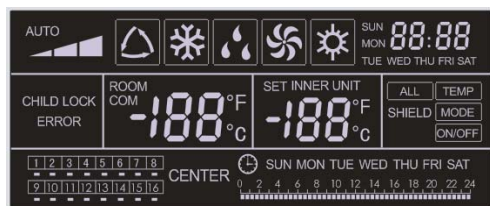


Fig. 2.1 Outline of the LCD

2.2 Introduction to Symbols on the LCD

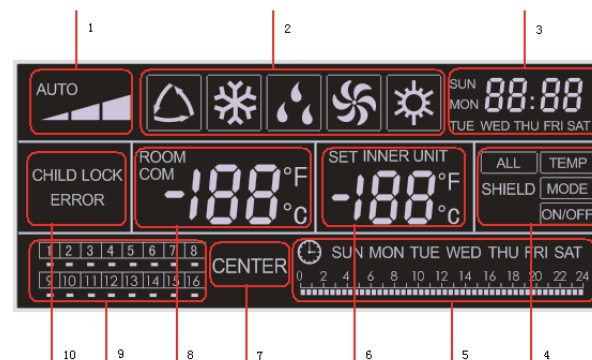


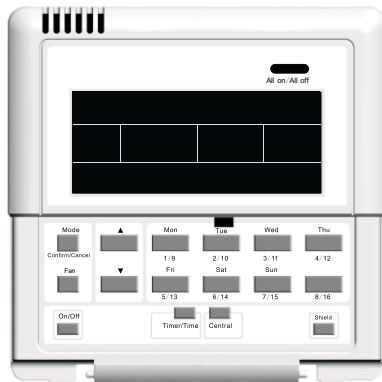
Fig. 2.2 Introduction to Symbols on the LCD

Table 2.1 Introduction to the Symbols on the LCD

No.	Name	Description
1	Fan speed	Displays the fan speed of the indoor unit: high, medium, low and auto.
2	Operating mode	Displays the operating mode of the indoor unit: auto, cool, dry, fan and heat.
3	System clock	Displays the weekday and current time (hour and minute) based on a 24-hour time system.
4	Shield	Displays the shielded status, "ALL", "TEMP", "MODE" and "ON/OFF".
5	Weekly timer	Displays the timing period (unit: 0.5 hour) which will cycle each week.
6	Set temperature/Indoor unit code	Displays the set temperature, indoor unit code (01-16), and the Celsius or Fahrenheit scale symbols.
7	Control mode	Displays "CENTER" under the centralized control mode and no display under the single control mode.
8	Ambient temperature/Serial port	Displays the ambient temperature, serial port and the Celsius or Fahrenheit scale symbols.
9	Indoor unit code/ on/off status	The indoor unit codes are indicated by numbers which will be displayed when the corresponding indoor unit is online. " " is the indoor unit on/off status indicator. The unit is "On" when the indicator is lit; the unit is "Off" when the indicator is not lit.
10	Error , Child lock	Displays the error codes when error(s) arise(s) and also "CHILD LOCK" when this function is activated.

3. Buttons

3.1 Outline of Buttons



3.1 Outline of Buttons

3.2 Introduction to the Button Functions

Table 3.1 Button Functions

No.	Name	Description
1	Mode	Switches between modes.
2	Fan	Sets the fan speed: high, medium, low or auto.
3	On/Off	Turns on/off the indoor unit.
4	▲	1. Under the single/centralized control status: sets the operating temperature of the indoor unit with max.30°C and min. 16°C; 2. Under the timing setting status: sets the timing period with max.24 hours and min.0 hours; 3. Under the clock setting status: sets the hour (max.:23, min.: 0) and minute (max.:59, min.: 0) of the clock.
5	▼	
6	Mon 1/9	Switches between unit 1 and unit 9; Under the timing or clock setting status, it indicates Monday.
7	Tue 2/10	Switches between unit 2 and unit 10; Under the timing or clock setting status, it indicates Tuesday.
8	Wed 3/11	Switches between unit 3 and unit 11; Under the timing or clock setting status, it indicates Wednesday.
9	Thu 4/12	Switches between unit 4 and unit 12; Under the timing or clock setting status, it indicates Thursday.
10	Fri 5/13	Switches between unit 5 and unit 13; Under the timing or clock setting status, it indicates Friday.
11	Sat 6/14	Switches between unit 6 and unit 14; Under the timing or clock setting status, it indicates Saturday.
12	Sun 7/15	Switches between unit 7 and unit 15; Under the timing or clock setting status, it indicates Sunday.
13	8/16	Switches between unit 8 and unit 16.
14	Timer/ Time	Sets the timing or on/off time of the selected indoor unit as well as sets the clock of the system.
15	Central	Switches between single and centralized control modes.
16	Shield	Deactivates some or all functions of a single or a group of the indoor unit(s).
17	All on/All off	Starts/stops all indoor units.

4. Control Flow Chart

See the following figure for a view of the control flow chart of the smart zone controller.

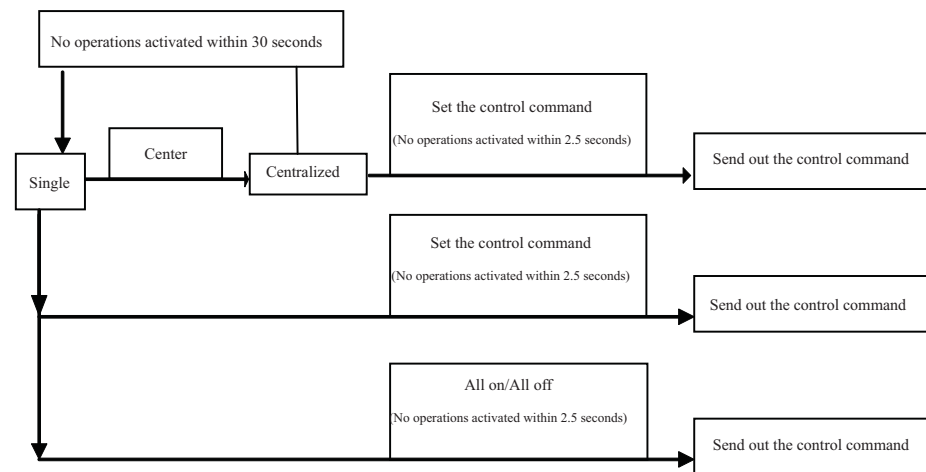


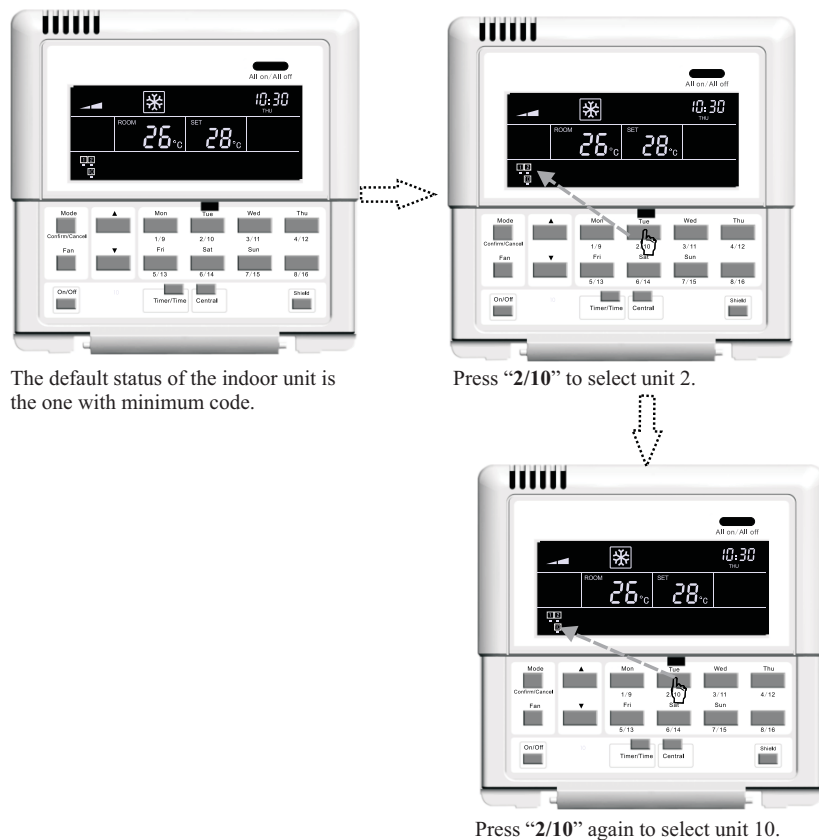
Fig. 4.1 Control Flow Chart of the Central Wired Controller

5. Operating Status View of the Indoor Unit and Control Mode

5.1 Operating Status View of the Indoor Unit

It can be generally seen on the LCD that the minimum code of the online indoor unit flashes, with its operating status, set temperature, and shield status etc., displayed. The minimum code can be replaced by other indoor units by pressing the corresponding indoor unit code button (If the requested indoor unit is offline, then the operation will be rendered null and void, displaying "NO").

See Fig.5.1 for operating status viewing instructions of the indoor unit:



The default status of the indoor unit is the one with minimum code.

Press "2/10" to select unit 2.

Press "2/10" again to select unit 10.

Fig.5.1 Operating Status View of the Indoor Unit

5.2 Control Mode

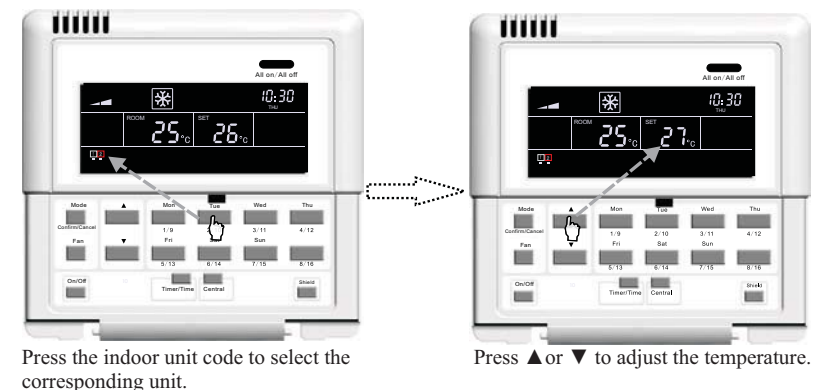
5.2.1 Single Control

Select the required indoor unit using the indoor unit code button. That particular code will flash on the LCD.

Set the operating status of the indoor unit and send out control commands, including On/Off, Mode, Fan, ▲ / ▼, and Shield, etc. If there is no change to the setting for a span of 2.5 seconds, the control commands will be sent out.

Fourteen seconds (thirty seconds for the duct type unit) after the control command is sent out, the set parameters of the indoor unit will be displayed.

See Fig. 5.2 for temperature control instructions under single control:



Press the indoor unit code to select the corresponding unit.

Press ▲ or ▼ to adjust the temperature.

Fig. 5.2 Temperature Control under Single Control

For other settings, please refer to subsequent sections.

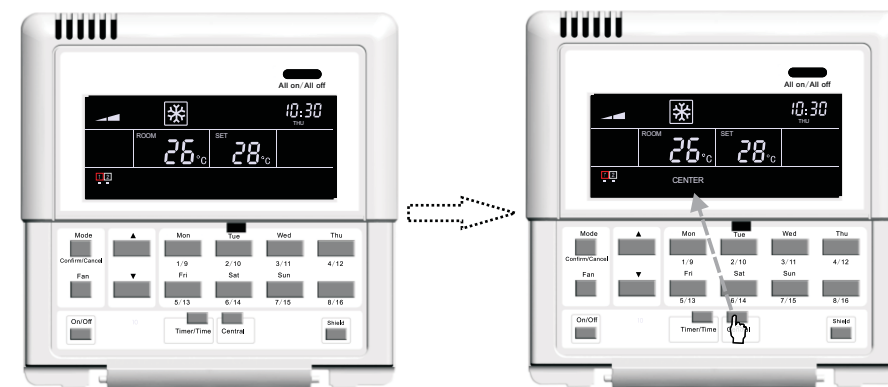
5.2.2 Centralized Control

Press **Central** to go to the centralized control mode. The LCD will display **CENTER**.

Set the operating status of the indoor unit and send out control commands, including On/Off, Mode, Fan, ▲ / ▼, and Shield, etc. If there is no change to the setting for a span of 2.5 seconds, the control commands will be sent out to all online indoor units.

Thirty seconds after the control command is sent out or if **Central** is pressed, **CENTER** will disappear from the LCD and the unit will revert back to the single control mode with the set parameters of the current indoor unit displayed.

See Fig.5.3 for instructions on entering the centralized control mode:



The default status of the indoor unit is the one with minimum code.

Press "Central" to go to the centralized control mode.

Fig. 5.3 Entering Centralized Control Mode

See Fig. 5.4 for centralized temperature control demonstration

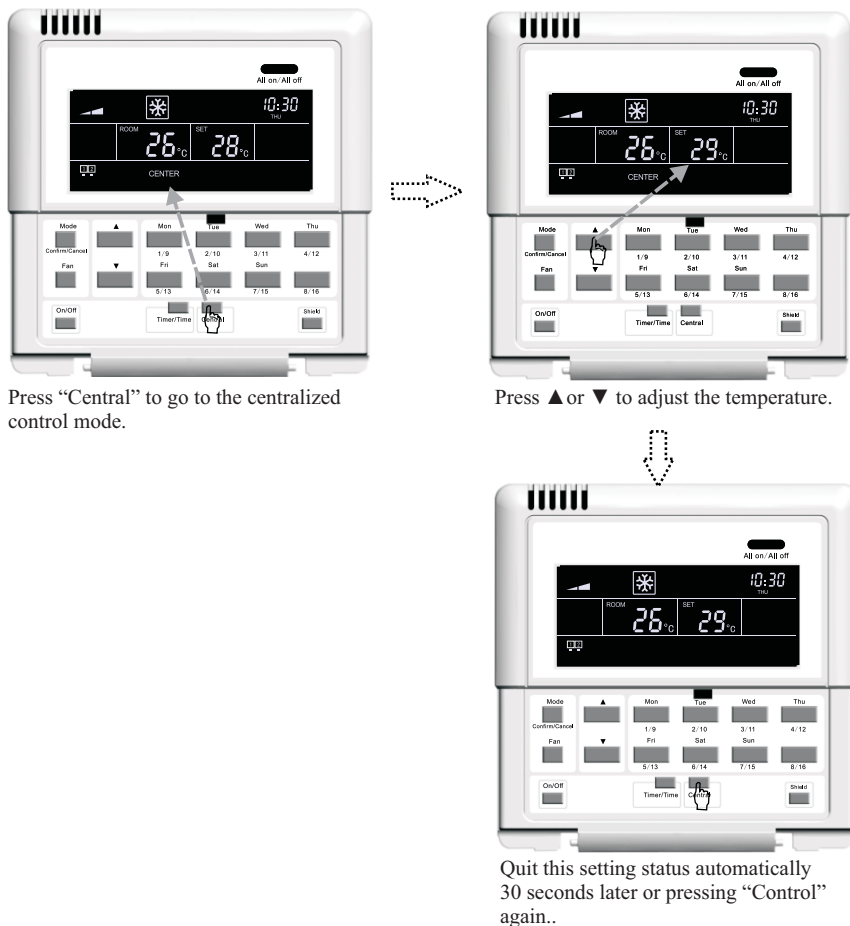


Fig.5.4 Centralized Temperature Control

For other settings, please refer to subsequent sections.

5.2.3 All on/All off

Under all circumstances, the current indoor unit which is on/off will be turned off/on by pressing “All on/All off”. CENTER will be displayed in the LCD. 2.5 seconds after pressing All on/All off, the control command, based on the settings of the current indoor unit (including: On/Off, Mode, Fan, ▲ / ▼, and Shield), will be sent out to all online indoor units.

5.3 Control Setting

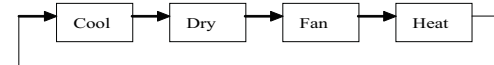
5.3.1 On/Off

The unit will be turned on/off by pressing On/Off whether the unit is under single or centralized control. The control command will be sent out if the setting does not change within 2.5 seconds.

Note: Concerning the VRF system: in the case that an error occurs to the indoor unit or if mode conflicts exist, whether the control command is on or off, the indoor unit of the VRF system will revert back to the off state.

5.3.2 Mode

When the unit is on, whether it is in single or centralized control, the operating mode will change cyclically according to the following sequence by pressing Mode:



See Fig.5.5 for operating mode setting demonstration:

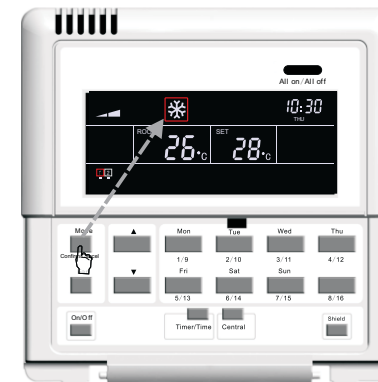


Fig.5.5 Operating Mode Setting

If the duct type indoor unit is in Auto mode, it will be available for viewing through the central wired controller.

5.3.3 ▲ / ▼

In addition to timing and time setting, when the unit is on, whether it is under single or centralized control, ▲ / ▼ are enabled for the following commands:

Press ▲ to increase the set temperature.

Press ▼ to decrease the set temperature.

The temperature will increase or decrease 1°C every 300 milliseconds by pressing ▲ or ▼. Temperature range under each mode: 16°C ~ 30°C / 61°C ~ 86°C.

See Fig.5.6 for temperature adjustment demonstration:

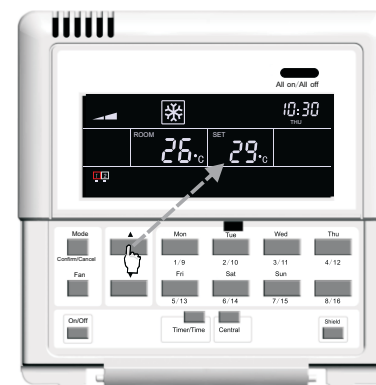


Fig.5.6 Temperature Adjustment

5.3.4 Fan

When the unit is on, whether it is under single or centralized control, the fan speed will change cyclically according to the following sequence by pressing “Fan”.

See Fig.5.7 for fan speed setting demonstration:

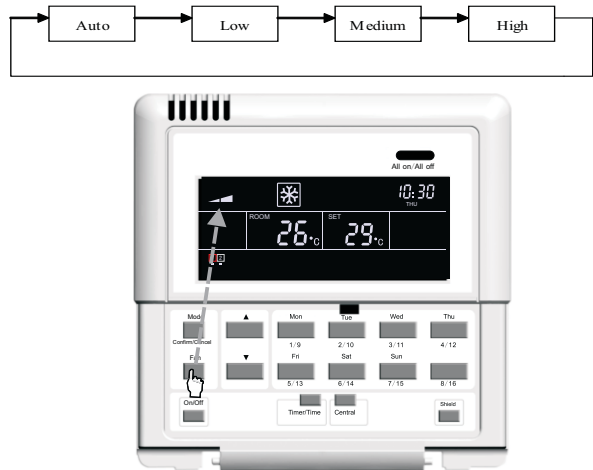


Fig. 5.7 Fan Speed Control

5.3.5 Timer

The Timer, namely the weekly timer, has a one week cycle. The timer is enabled for on/off time settings of the unit (measured in 0.5 hour units) for one or several days during a week with the option of several time periods on the same day. The timer setting then preserves and repeats this setting weekly.

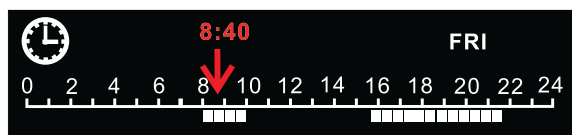
Introduction to the weekly timer:

- a. Once the weekly timer is set, the unit will automatically be turned on/off as the set time starts/ends. For instance, in the case that the current time is 9:00 Friday and the setting of the timer is as shown in the figure below, the unit will turn on at 10:00, turn off at 10:30 and then turn on again at 12:30 and off at 13:30.



- b. The weekly timer does not conflict with the manual on/off control, that is, the unit can be turned on/off manually even if the weekly timer is set and the unit also can be turned on/off as according to the setting of the weekly timer.

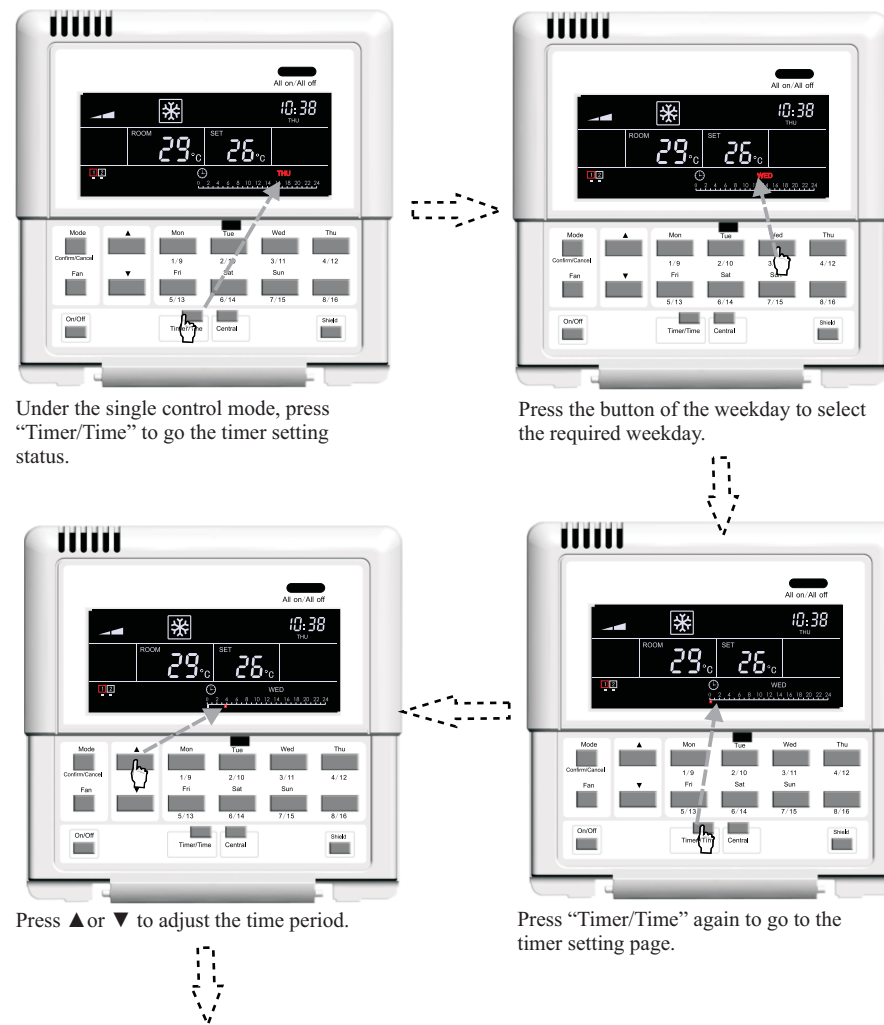
For instance, in the case that the weekly timer is set according to the figure below from 8:00 to 10:00 and from 15:30 to 21:30, and the current time is 8:40 Friday and the unit is turned off manually, the unit will be automatically turned on at 15:30 and later turned off at 21:30.



5.3.5.1 Setting the Weekly Timer under Single Control

In single control mode, it is possible to go to the weekly timer setting page by pressing **Timer/Time**. “**” will flash (“**” indicates MON, TUE, WED, THU, FRI, SAT, or SUN). Press the weekday button to set the weekday. After that, press **Timer/Time** to set the exact time, press **▲** or **▼** to adjust the time period and finally press **Confirm/Cancel** to confirm this setting (without pressing **Confirm/Cancel**, the setting will not be saved). Similarly, several time periods in one day can be set. After the setting is finished, please press **Timer/Time** to quit or wait for the timer to exit automatically 30 seconds later.

See Fig. 5.8 for weekly timer setting demonstration under single control:



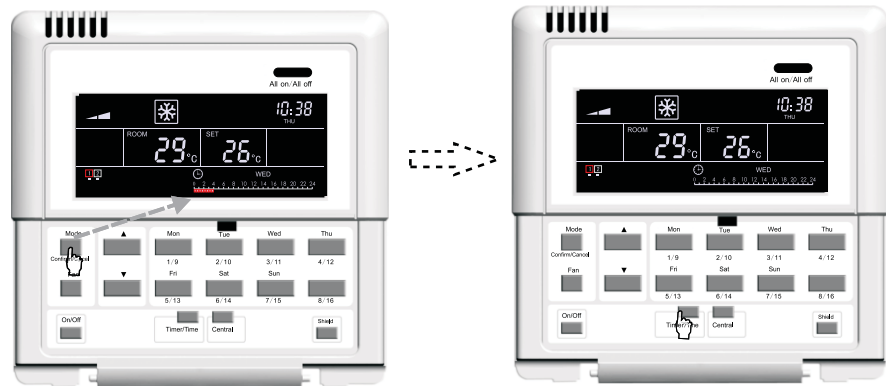
Under the single control mode, press “Timer/Time” to go the timer setting status.

Press the button of the weekday to select the required weekday.

Press **▲** or **▼** to adjust the time period.

Press “Timer/Time” again to go to the timer setting page.

(continued)



Press “Confirm/Cancel” to confirm/cancel the setting.

Quit the setting status automatically 30 seconds later or by pressing “Timer/Time”.

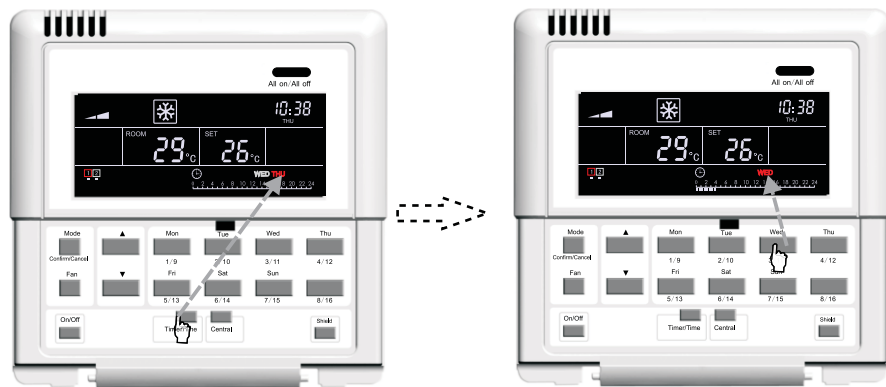
Fig.5.8 Setting the Weekly Timer under Single Control

5.3.5.2 Cancelling the Weekly Timer under Single Control

In single control mode, it is possible to go to the weekly timing setting page by pressing **Timer/Time**. “*” will flash (“*” indicates MON, TUE, WED, THU, FRI, SAT, or SUN). Press **Confirm/Cancel** to cancel the timing (i.e. the set timing period on this day). Subsequently, press the weekday button to enter canceling status and press **Confirm/Cancel** to cancel the setting on this day.

After the cancellation, the unit will revert back to the weekly timer setting page. One may exit this page by pressing **Timer/Time** twice (first press for entering the settings status and the second for quitting the setting status) or by waiting for the unit to automatically exit 30 seconds later.

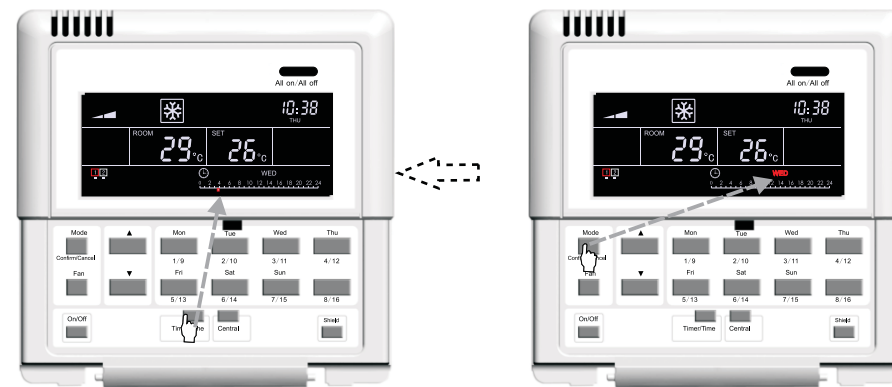
See Fig.5.9 for the weekly timer cancellation demonstration under single control:



Under the single control status, press “Timer/Time” to go to the timer setting page.

Press the button of the weekday to select the required day.

(continued)



Press “Timer/Time” to enter the setting status.

Press “Confirm/Cancel” to cancel the setting on this day.



Press “Timer/Time” again to quit this setting status.

Fig.5.9 Cancelling the Weekly Timer under Single Control

5.3.5.3 Setting the Weekly Timer under Centralized Control

In single control, it is possible to go to the weekly timing setting page by pressing **Timer/Time**. “*” will flash (“*” indicates MON, TUE, WED, THU, FRI, SAT, or SUN). Press **Central** and **CENTER** will be displayed on the LCD, indicating that one may now set the weekly timer under the centralized control. Press the weekly day button to choose the desired day, press **Timer/Time** to set the exact time, press **▲** or **▼** to adjust the time period, and finally press **Confirm/Cancel** to end this setting (without pressing **Confirm/Cancel**, the setting will not be saved). Following the above procedure indicates that this day is timed for all indoor units. In addition, several time periods can be set on one day using the same method as stated above.

After setting completion, one may quit the timer setting status by waiting for it to exit automatically 30 seconds later or by pressing **Timer/Time**.

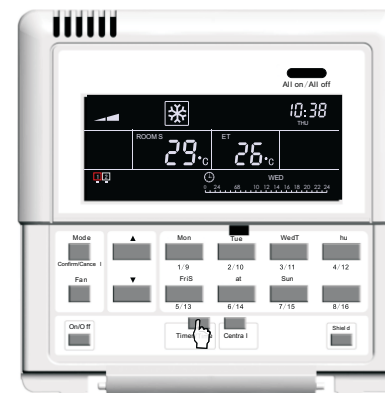
See Fig. 5.10 for weekly timer setting demonstration under centralized control.



Under the single control status, press "Timer/Time" again to go to the timing setting page.



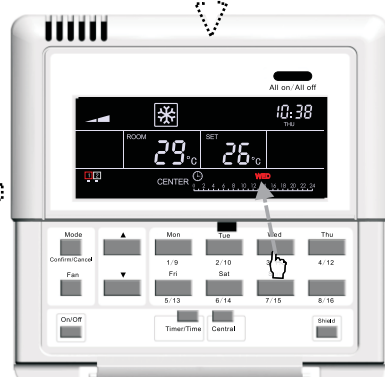
Press "Central" to go to the centralized control mode



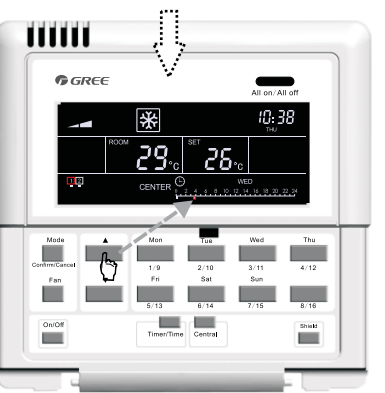
Quit this setting status automatically 30 seconds later or by pressing "Timer/Time".



Press "Timer/Time" again to go to the timing period on this weekday.



Press the button of the weekday to select the required weekday.



Press ▲ or ▼ to adjust the time period.



Press "Confirm/Cancel" to cancel the setting period.

Fig. 5.10 Setting the Weekly Timer under Centralized Control

5.3.5.4 Cancelling the Weekly Timer under Centralized Control

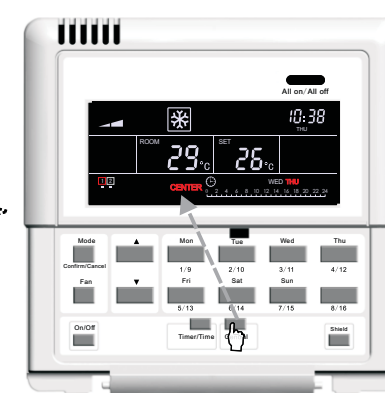
In single control mode it is possible to go to the weekly timer setting page by pressing **Timer/Time**. "*" will flash ("*" indicates MON, TUE, WED, THU, FRI, SAT, or SUN). Press **Central** and **CENTER** will be displayed on the LCD, indicating that one may now set the weekly timer under centralized control. Press the weekday button to choose the desired day and then press **Confirm/Cancel** to cancel the setting on this day for all indoor units (i.e. cancel the set time period on this day).

After the cancellation, the unit will revert back to the weekly timer setting page under centralized control. One may exit this page automatically 30 seconds later or by pressing **Timer/Time** twice (first press for entering the settings status under the centralized control and the second for quitting this setting status).

See Fig.5.11 for weekly timer cancellation demonstration under centralized control:



Under the single control status, press "Timer/Time" to go to the timing setting page.



Press "Central" to go to the centralized control mode.

(continued)



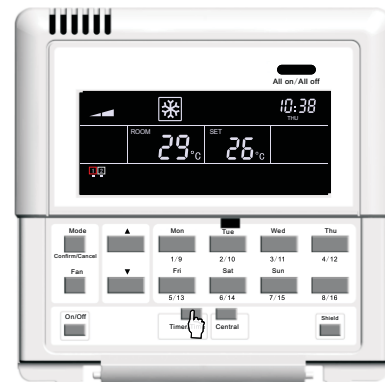
Press "Confirm/Cancel" to cancel the set time period.



Press "Timer/Time" to enter the setting status.



Press the button of the weekday to select the required weekday.



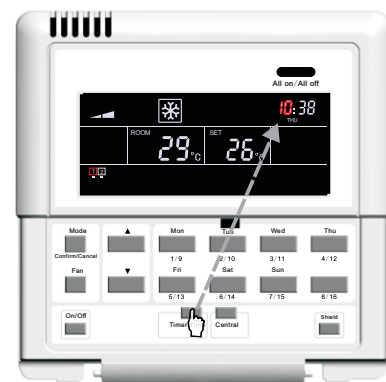
Press "Timer/Time" to quit the setting status.

Fig.5.11 Cancelling the Weekly Timer under Centralized Control

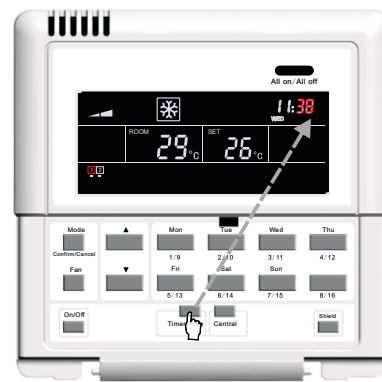
5.3.6 Time

Enter the clock setting status by pressing **Timer/Time** for fifteen seconds. Press the weekday button to set the day and **88** will flash. Press **▲** or **▼** to set the hour. Subsequently, press **Timer/Time** and **:88** will flash. Press **▲** or **▼** to set the minute. Press **Timer/Time** or wait five seconds and the system will exit the time setting status.

See Fig. 5.12 for clock setting demonstration.



Press "Timer/Time" for five seconds to go to the clock setting status.



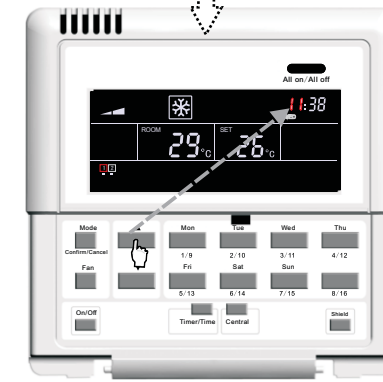
Press "Timer/Time" again to go to minute setting status.



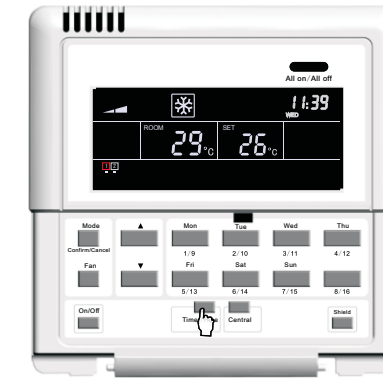
Press **▲** or **▼** to adjust the minute.



Press the button of the week day to select the expected week day.



Press **▲** or **▼** to set the hour.



Quit the setting status automatically 15 seconds later or by pressing "Timer/Time".

Fig. 5.12 Clock Setting

5.3.7 Shield

The shield function can be set under either single control or centralized control. The control command (including: On/Off, Mode, Fan, ▲/▼, and Shield etc.) based on the settings of the current indoor unit will be sent out to all online indoor units 2.5 seconds later.

5.3.7.1 “TEMP” Shield under Single Control

To activate or deactivate the temperature shield: first press **Shield** and **SHIELD** will be displayed on the LCD. Press **Shield** again to switch to **TEMP**, and then press **Confirm/Cancel**. Subsequently, “TEMP” will turn on or off but **MODE** will flash instead. One may quit this setting status by pressing **Shield** three times.

See Fig.5.13 for “TEMP” shield demonstration under single control

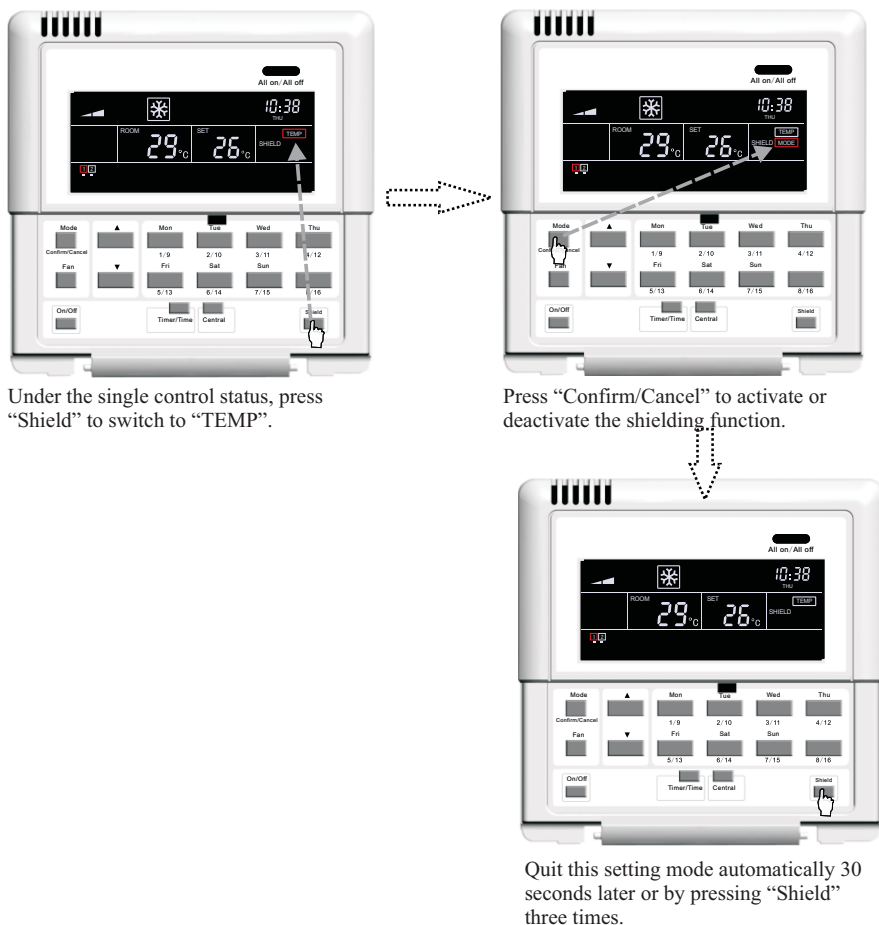


Fig.5.13 TEMP Shield under Single Control

5.3.7.2 MODE Shield under Single Control

To activate or deactivate the mode shield: first press **Shield** and **SHIELD** will be displayed on the LCD. Press **Shield** again to switch to **MODE**, and then press **Confirm/Cancel**. Subsequently, **MODE** will turn on and off, but **ON/OFF** will flash instead. One may quit this setting status by pressing **Shield** twice.

See Fig.5.14 for **MODE** shield demonstration under single control:

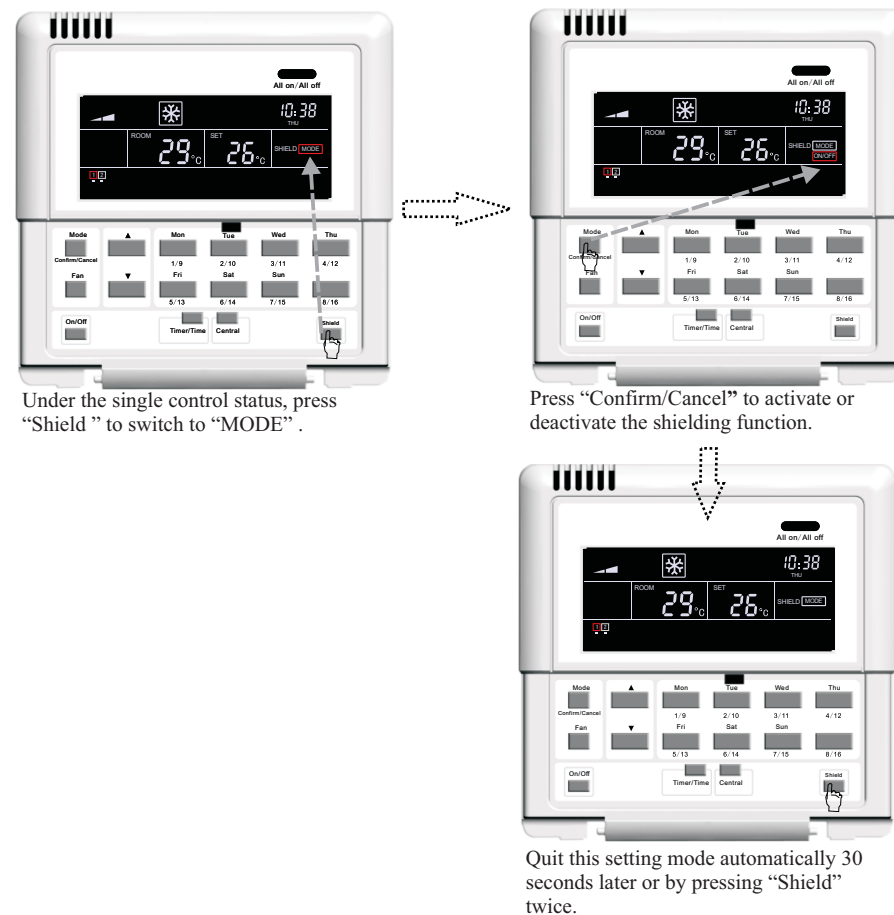
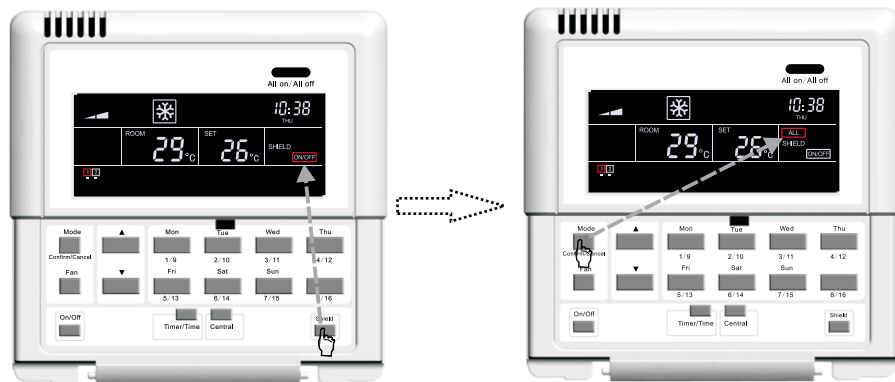


Fig. 5.14 MODE Shield under Single Control

5.3.7.3 ON/OFF Shield under Single Control

To activate or deactivate the on/off shield: first press **Shield** and **SHIELD** will be displayed on the LCD. Press **Shield** to switch to **ON/OFF**, and then press **Confirm/Cancel**. Subsequently, **ON/OFF** will turn on and off, but **ALL** will flash instead. One may quit this setting state by pressing **Shield** twice. See Fig.5.15 for **ON/OFF** shield demonstration under single control.



Under the single control status, press “Shield” to switch to “ON/OFF”.

Press “Confirm/Cancel” to activate or deactivate the shielding function.



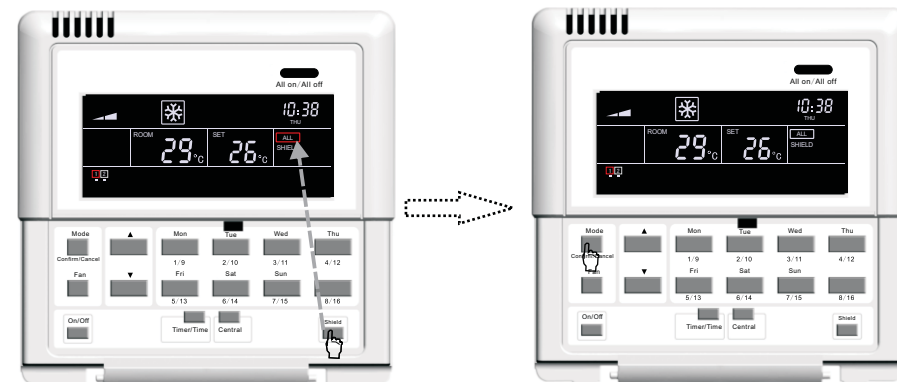
Quit this setting mode automatically 30 seconds later or by pressing “Shield” once.

Fig. 5.15 ON/OFF Shield under the Single Control

5.3.7.4 ALL Shield under Single Control

To activate or deactivate the all shield: first press **Shield** and **SHIELD** will be displayed on the LCD. Press **Shield** to switch to **ALL**, and then press **Confirm/Cancel**. Subsequently, **ON/OFF** will turn on or off and at the same time exit this setting status.

See Fig.5.16 for **ALL** Shield demonstration under single control:



Under the single control status, press “Shield” to switch to “All”.

Press “Confirm/Cancel” to activate or deactivate the shielding function and at the same time quit this setting status.

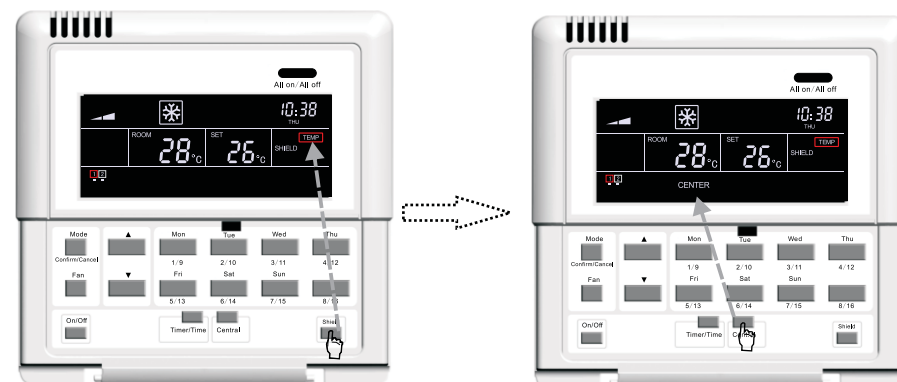
Fig. 5.16 ALL Shield under the Single Control

Note: if the shield setting is not confirmed by pressing **Confirm/Cancel**, the system will quit this setting status 15 seconds later.

5.3.7.5 TEMP Shield under the Centralized Control

To activate or deactivate the temperature shield under the centralized control: first press **Shield** and **SHIELD** will be displayed on the LCD. Press **Shield** to switch to **TEMP**, then press **Central** and **CENTER** will be displayed on the LCD. Press **Confirm/Cancel**. Subsequently, **TEMP** will turn on or off but **MODE** will flash instead. After setting completion, one may quit this setting status by pressing **Shield** three times.

See Fig.5.17 for **TEMP** shield demonstration under centralized control:



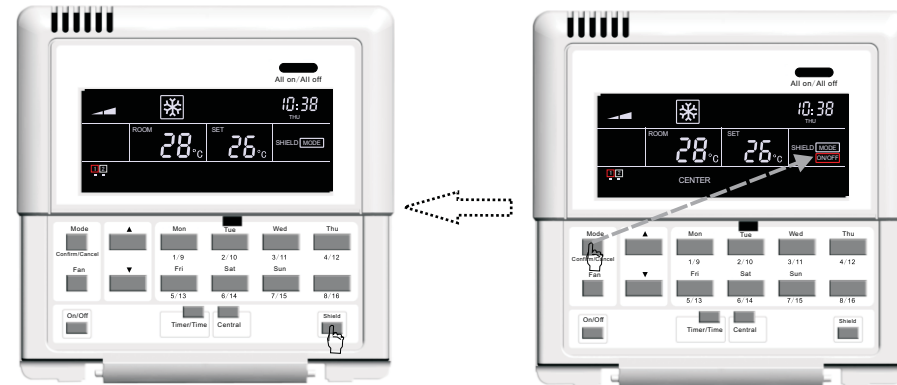
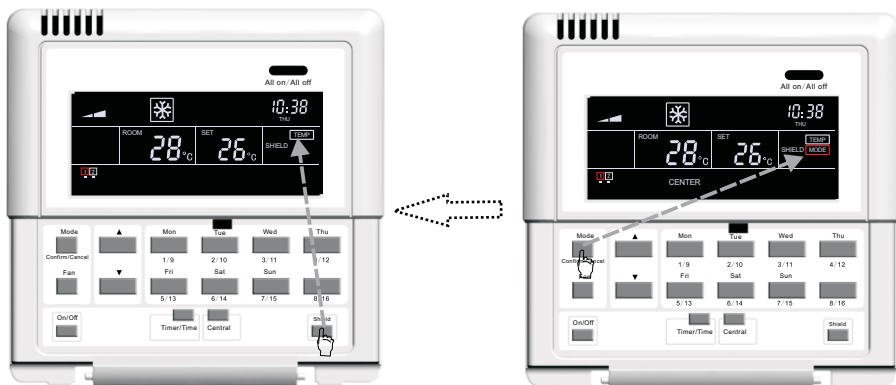
Under the single control status, press “Shield” to switch “TEMP”

Press “Cancel” to go to the shielding setting status under the centralized control.



(continued)

(continued)



Quit this setting status automatically 30 seconds later or by pressing “Shield” three times.

Press “ Confirm/Cancel ” to activate / deactivate the shielding function.

Quit this setting status automatically 30 seconds later or by pressing “Shield” twice.

Press “Confirm/Cancel” to activate / deactivate the shielding function.

Fig.5.17 TEMP Shield under Centralized Control

Fig.5.18 MODE Shield under the Centralized Control

5.3.7.6 MODE Shield under Centralized Control

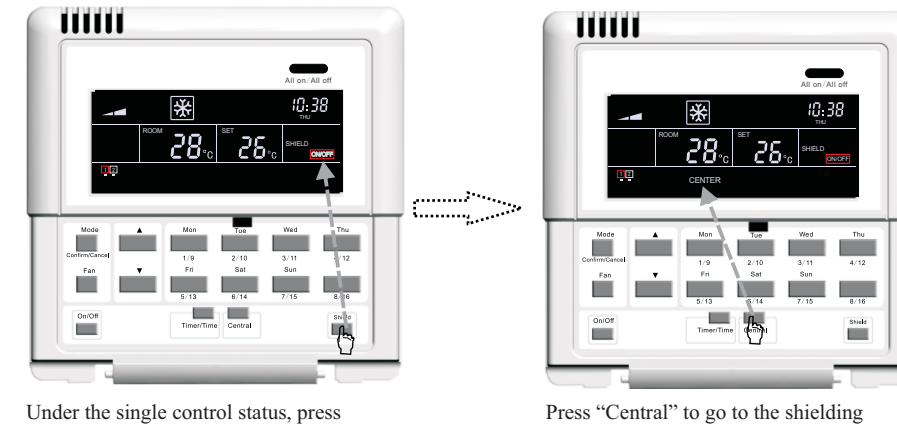
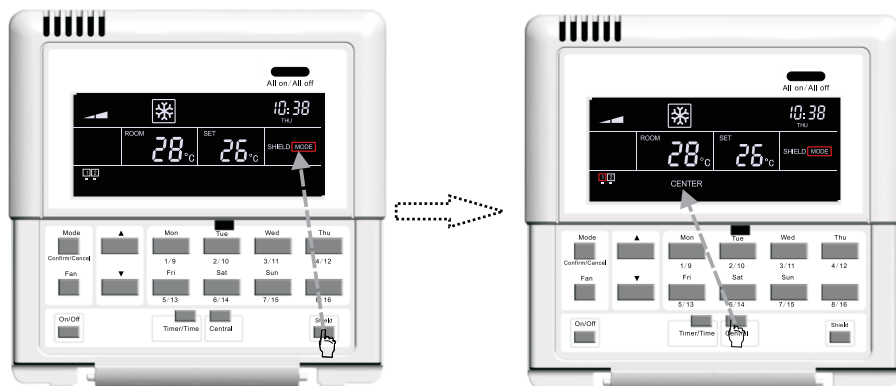
5.3.7.7 ON/OFF Shield under Centralized Control

To activate or deactivate the mode shield under the centralized control: first press **Shield** and **SHIELD** will be displayed on the LCD. Press **Shield** to switch to **MODE**, and press **Central** and **CENTER** will be displayed on the LCD. Press **Confirm/Cancel**. Subsequently, **MODE** will turn on or off but **ON/OFF** will flash instead. One may quit this setting status by pressing Shield twice.

To activate or deactivate the on/off shield under the centralized control: first press **Shield** and **SHIELD** will be displayed on the LCD. Press **Shield** to switch to **ON/OFF**, press **Central** and **CENTER** will be displayed on the LCD and then press **Confirm/Cancel**. Subsequently, **ON/OFF** will turn on or off but **ALL** will flash instead. One may quit this setting status by pressing **Shield** once.

See Fig.5.19 for “ON/OFF” shield demonstration under centralized control:

See Fig.5.18 for **MODE** shield demonstration under centralized control:



Under the single control status, press “Shield” to switch to “MODE”.

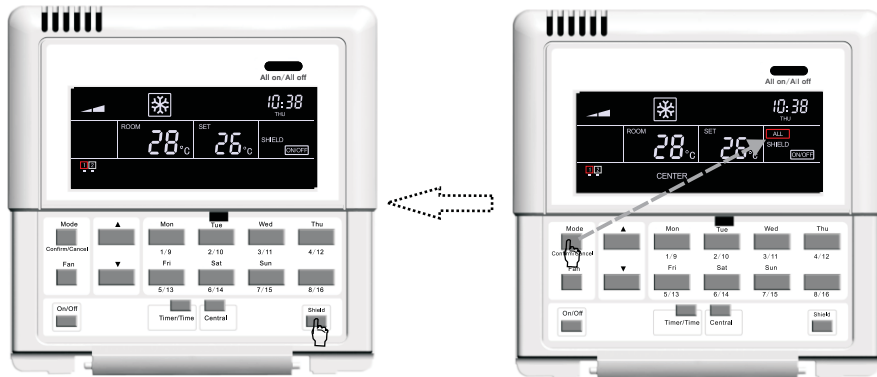
Press “Central” to go to the shielding setting status under the centralized control.

Under the single control status, press “Shield” to switch to “ON/OFF”.

Press “Central” to go to the shielding setting status under the centralized control.

(continued)

(continued)



Quit this setting status automatically 30 seconds later or by pressing “Shield” once.

Press “Confirm/Cancel” to activate / deactivate the shielding function.

Fig.5.19 “ON/OFF” Shield under Centralized Control

5.3.7.8 “ALL” Shield under Centralized Control

To activate or deactivate the all shield for the centralized control: first press **Shield** and **SHIELD** will be displayed on the LCD. Press **Shield** to switch to **ALL**, press **Central** and **CENTER** will be displayed on the LCD and then press **Confirm/Cancel**. Subsequently, **ALL** will turn on or off and the unit will exit the setting status at the same time.

See Fig.5.20 for **ALL** shield demonstration under centralized control:



Press “Confirm/Cancel” to activate/deactivate the shielding function and simultaneously exit the setting status.

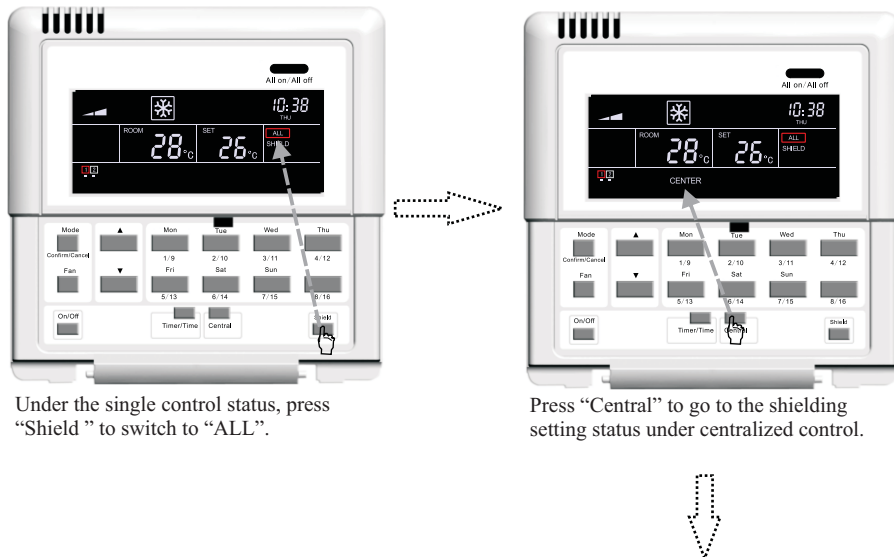
Fig.5.20 ALL Shield under Centralized Control

Note: if the shield setting is not confirmed by pressing **Confirm/Cancel**, the system will quit this setting status automatically 30 seconds later.

5.3.8 Child Lock

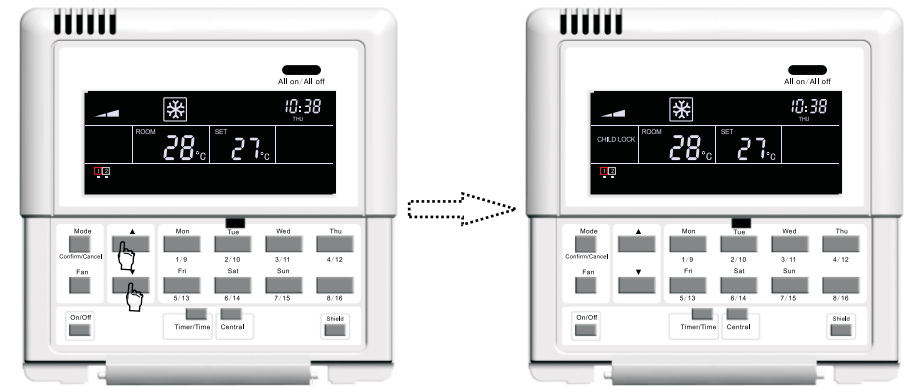
Whether the unit is on or off, one may activate the child lock function by pressing **▲** and **▼** simultaneously for five seconds. **CHILD LOCK** will be displayed on the LCD and no button pressing except for the combination of **▲** and **▼** will generate a response. This function can be deactivated by repeating the procedure stated above.

See Fig.5.21 for child clock setting demonstration:



Under the single control status, press “Shield” to switch to “ALL”.

Press “Central” to go to the shielding setting status under centralized control.



Under the on state of the unit, press **▲** or **▼** simultaneously for five seconds.

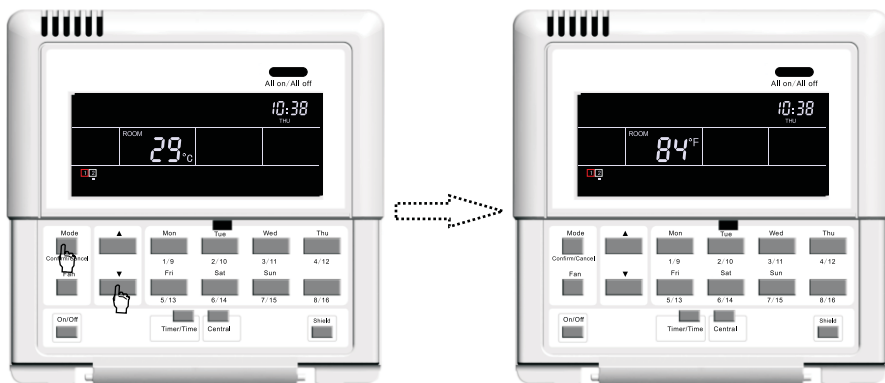
Go to the locking status with “CHILD LOCK” displayed on the LCD.

Fig.5.21 Child Lock

5.3.9 Switching between Celsius and Fahrenheit

When the current indoor unit is off, one may switch between Celsius and Fahrenheit by pressing **Mode** and **▼** simultaneously for five seconds.

See Fig.5.22 for Celsius and Fahrenheit switching demonstration:



Under the off state of the unit, press “Mode” and ▼ simultaneously for five seconds.

Switch over the Celsius scale and the Fahrenheit.

Fig. 5.22 Switching between Celsius and Fahrenheit

6. Error Display

When an error arises during system operation, error codes will be displayed at the location where the ambient temperature is usually displayed on the LCD.

See Fig.6.1 for a view of the error display:



Fig. 6.1 Error Display

See Table 6.1 for a list of errors of the multi VRF indoor units and see Table 6.2 for a list of errors of the duct type indoor units.

Table 6.1 Errors for Multi VRF Indoor Units

Code	Description
E1	High pressure protection of the compressor
E2	Anti-freezing protection of the indoor unit
E3	Low pressure protection of the compressor
E4	Discharge temperature protection of the compressor
E5	Over-current protection, overload protection of compressor, drive error
E6	Communication error
E7	Mode conflict
E9	Water overflow protection
EH	E-heater protection
F0	Ambient temperature sensor error of the indoor unit
F1	Error of coil pipe inlet sensor of the indoor unit
F2	Error of coil pipe intermediate sensor of the indoor unit
F3	Error of coil pipe outlet sensor of the indoor unit
F4	Ambient temperature sensor error of the outdoor unit
F5	Error of coil pipe inlet sensor of the outdoor unit
F6	Error of coil pipe intermediate sensor of the outdoor unit
F7	Error of coil pipe outlet sensor of the outdoor unit
F8	Error of discharge temperature sensor 1 (fixed)
F9	Error of discharge temperature sensor 2 (digital)
FA	Error of oil temperature sensor 1 (fixed)
Fb	Error of oil temperature sensor 2 (digital)
Fc	High pressure sensor error
Fd	Low pressure sensor error

Table 6.1 Errors for Multi VRF Indoor Units

Code	Description
E0	Water pump error
E1	High pressure protection of the compressor
E2	Anti-freezing protection of the indoor unit
E3	Low pressure protection of the compressor
E4	High discharge temperature protection of the compressor
E5	Overload protection of the compressor
E6	Communication error
E8	Indoor unit fan protection
E9	Water overflow protection
F0	Indoor ambient temperature sensor error at the return air inlet.
F1	Evaporator temperature sensor error
F2	Condenser temperature sensor error
F3	Indoor ambient temperature sensor error
F4	Discharge temperature sensor error
F5	Ambient temperature sensor error at the display
EH	Auxiliary electrical heater error
FF	Sub-room switch opened
C5	Jumper cap error
C1	Arc control
C2	Electrical leakage protection

7. Installation and Debugging

7.1 Installation

7.1.1 Installation Dimension Diagram

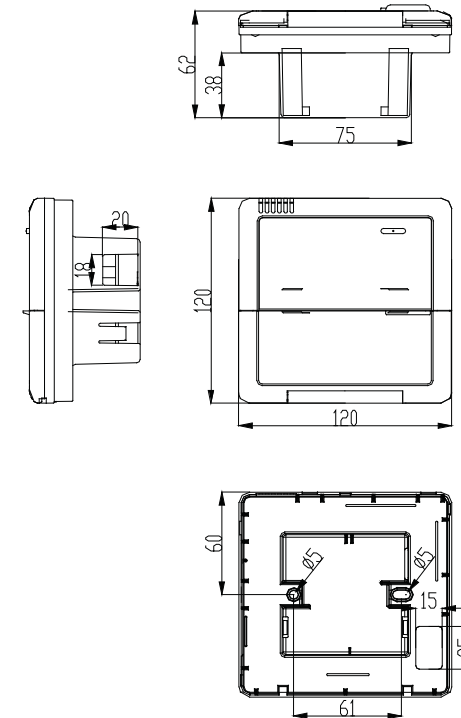


Fig.7.1 Installation Dimension Diagram

7.1.2 Interfaces

See Fig.7.2 for the display board interfaces and see Fig.7.3 for the power supply module interfaces.

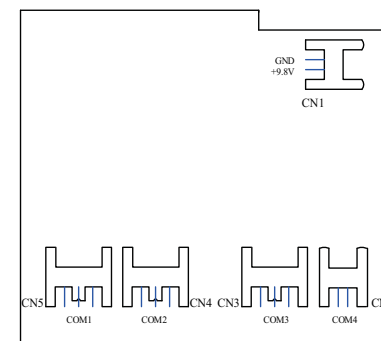


Fig.7.2 Display Board Interfaces

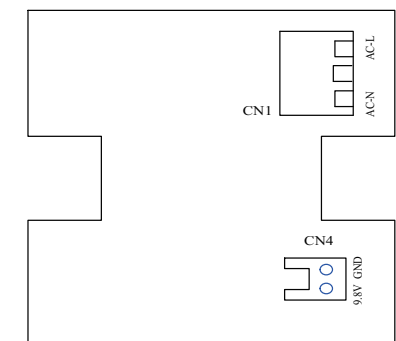


Fig.7.3 Power Supply Module Board Interfaces

a. Power Supply Interface

- ① The power supply module board CN1 interface is for the external power cord connection board. The AC-N terminal is for the neutral line, the AC-L terminal is for the live line and the middle terminal remains open.
- ② The power supply module board CN4 interface, which is for the power supply of the display board, is connected with the display board CN1 interface using the two-core wire provided by unit.

b. Communication Interface

The CN2, CN3, CN4 and CN5 interfaces of the display board are for communication. CN2, namely COM4, is for the duct type unit (2-pin) communication; CN5, CN4, CN3, namely COM1, COM2, COM3 respectively, are for the multi VRF system (3-pin) communication.

7.1.3 Preparation and Connection of the Communication Line

- a. The communication line between the centralized controller and the unit should be prepared by the user according to the particular project.
- b. Preparation and connection of the communication line for the multi VRF system
 - ①. One three-core communication line is needed to connect one set of a multi VRF system to one interface (COM1, COM2 or COM3) of the central wired controller.
 - ②. One end of the communication line is connected with the central wired controller and the other is connected with the three-pin socket of the indoor unit.
- c. Preparation and connection of the communication line for the duct type unit
 - ①. The communication line for the duct type unit is the two-core line provided by unit (one end is the two-core head and the other end is the crystal head, code: 40113325).
 - ②. If N sets of duct type units exist, then N+1 communication lines are required.
 - ③. Connect the two-core heads of one communication line to the COM4 port of the central wired controller and connect the two-core heads of N communication lines to the two-pin socket of the duct type unit wired controller.
 - ④. The user can prepare the extension line and connect the wires inside the crystal head according to his particular requirements.

Note: one set of a Multi VRF system consists of one multi VRF outdoor unit and one or more multi VRF indoor units. One set of duct type units consists of one duct type outdoor unit and one duct type indoor unit.

7.1.4 Installation

One may proceed with installation of the units after selecting an installation location and adhering to the following installation steps:

- a. Verify the set location intended for the central wired controller installation.
- b. Embed the power supply box (2) as displayed in Fig.7.6 for the installation of the bottom case (3).
- c. Connect the power cord and the communication line of the display board and then thread both of them through the power supply box (2).
- d. Attach the bottom case onto the power box (2) using screws.
- e. Tidy up the power cord and the communication line inside the central wired controller.
- f. Close the cover (5).

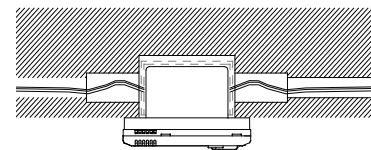


Fig.7.4 Concealed Cable Installation 1 (right-left wiring)

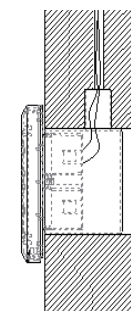


Fig.7.5 Concealed Cable Installation 2 (up-down wiring)

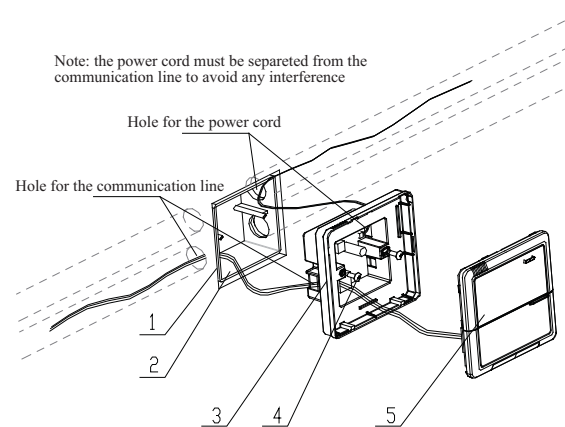


Fig. 7.6 Installation Diagram

Serial No.	Description
1	Wall
2	Power Supply Box (86)
3	Bottom Base(including power supply module board)
4	Screw
5	Top Cover(including the display board)

After the installation, it is necessary to run through the debugging process in order to guarantee normal communication.

7.2 Unit Matching

Provided that only the multi VRF unit is required for a particular project and the outdoor unit with a connection board is being used, one central wired controller can control a maximum of 16 indoor units matched with a maximum of three connection boards. If the outdoor unit without a connection board is being used, one central wired controller can control a maximum of 16 indoor units and maximum of three outdoor units.

Provided that only the duct type indoor unit (one outdoor unit is matched with one indoor unit) is required for a particular project, one central wired controller can control up to 16 duct type indoor units.

Provided that both duct type units and the multi VRF units are required for a particular project, a maximum of three ports of the central wired controller can be connected with the multi VRF units. The maximum permissible quantity of all indoor units at the four ports is 16.

Example 1:

Suppose that there are three multi VRF outdoor units, 10 multi VRF indoor units, five duct type outdoor units and five duct type indoor units for a particular project. Only one central wired controller is required

Project Demand	Multi VRF System			Duct Type Unit	
	Multi VRF Outdoor Unit	Connection Board	Multi VRF	Series E Duct Type Outdoor Uni	Duct Type Indoor Unit
	CMV-R300W	/	/	YUD024	DBD024
Quantity(set)	3	0	10	5	5
Quantity (Central wired controller)	1.				

Example 2:

Suppose that there are two CMV-R300W outdoor units and 32 multi VRF indoor units. Two central wired controllers are required, as shown in the table below:

Project Demand	Multi VRF System		
	Outdoor Unit	Connection Board	Indoor Unit
	CMV-R300W	/	/
Quantity (set)	2	4	32
Quantity (Central Wired controller)	2		

7.3 Debugging and Viewing the Port No. and the Indoor Unit Address

Debugging setting: when the unit is initially powered up, when the project setting changes or when the serial port is replaced, one may enter debugging mode by pressing **Mode** and **Thu** simultaneously for five seconds. The debugging setting automatically checks and distributes the indoor unit address. Debugging will be completed 10 minutes later. The indoor unit which receives the address is under control and the unaddressed indoor unit is not.

Viewing the serial port and the indoor unit address: One may access the debugging page by pressing **Mode** and **Thu** simultaneously for five seconds, at which point one may view the serial port and address of the corresponding indoor unit.

Pressing on **Confirm/Cancel** will confirm this debugging setting and open the current indoor unit viewing state; otherwise this setting will not be saved.

See Fig.7.7 for the debugging operation demonstration. Fig.7 shows the indoor unit 1 and indoor unit 2 both of which are connected with the port COM2. The address of one is 01 and of the other is 04.,

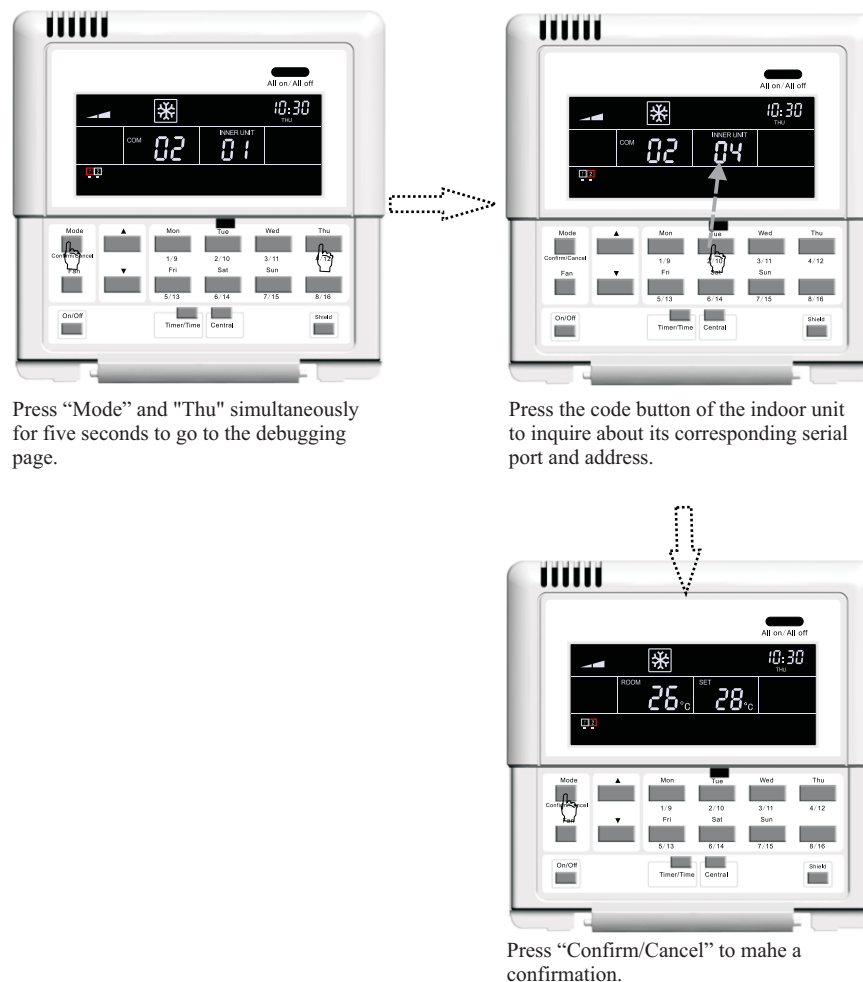


Fig.7.7 Debugging

7.4 Labeling

A label is provided to identify the relationship between the indoor unit No. and the corresponding room name. The user can write down the indoor unit No. and its corresponding room name on the label which will then be stuck to the inside of the central wired controller cover so that the user will have clear information about the control object.

For instance, when the user has installed the air conditioners in the children's room, bedroom and living room, following debugging one may view the indoor unit No. of each room and clarify its corresponding relationship.

Living Room	Bedroom	Child Room	Room Name
Port 1 ,Indoor Unit 06	Port 1, Indoor Unit 05	Port 1,Indoor Unit 04	Indoor Unit Address
3	2	1	.Indoor Unit No

After clarifying the relationship between the indoor unit no. and the room, the user can write “Children's Room”, “Bedroom”, “Living Room” in place of “1”, “2” and “3” respectively on the label and then adhere the label to the inner side of the central wired controller.

See 7.8 for view of the label:

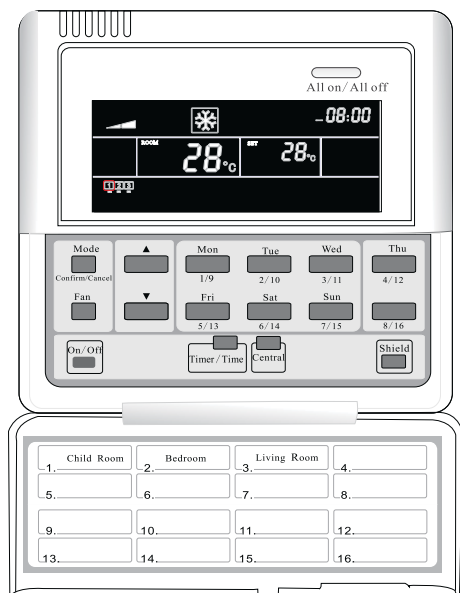


Fig. 7.8 Label of the Cental Wired Controller