

Fan Coil Unit

Installation and Operation Manual

Cassette 4Way Fancoil Unit

Please read the manual before using the fan coil.
The installation and service must be carried out by trained and qualified technician only.

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INTRODUCTION

The **4-way cassette fan coils** are terminals of a hydronic system for installation in false ceilings. They can be used with chilled and/or hot water to form an air conditioning system.

Unit composition

Cassette panel assembly
aesthetic design, in ABS material with high mechanical characteristics and resistance to ageing.

Unit body of casing
made of galvanized steel sheet metal.

Air passage
pre-formed expanded polystyrene air passage, suitable shaped inside of unit body to allow passage of air, thickness enough for thermal and acoustical insulation.

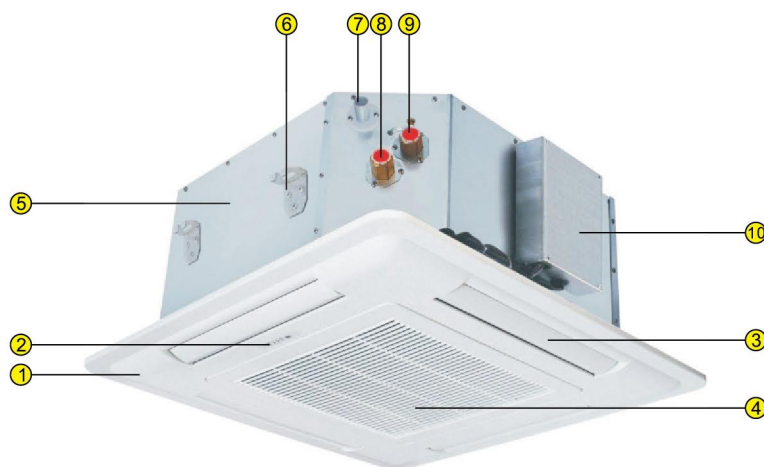
Heat exchanger
made from copper tubes and aluminium fins with high heat exchange efficiency, with water inlet & outlet connections.

Condensate recovery tray
high density drain pan fitted inside of unit body under the heat exchanger to collect the condensate water.

Condensate pump assembly
the drain pump, no return valve, drainage pipe are fixed inside of the unit. The float switch is connected with the electronic board to control the condensate and alarm level.

Fan motor assembly
the centrifugal balanced fan blower, fitted with the electric fan motor for silent operation.

Electrical control box
contains the electronic control board, wiring terminal, etc.



UNIT OVERVIEW

- | | |
|--------------------------|--------------------------------|
| 1. Unit panel | 6. Mounting bracket |
| 2. Lamp & receiver board | 7. Condensate water drain pipe |
| 3. Air discharge louver | 8. Water inlet pipe |
| 4. Air return grille | 9. Water outlet pipe |
| 5. Unit body | 10. Control box |

REMOTE CONTROLLER

Adjust Set Temperature

Press down or up button to decrease or increase the desired room temperature.
* Temperature can not set in Fan mode.

Mode

Press to select operation mode:
Cool-Dry-Fan-Heat-Auto
* Auto mode for 4 pipe unit only.

Fan

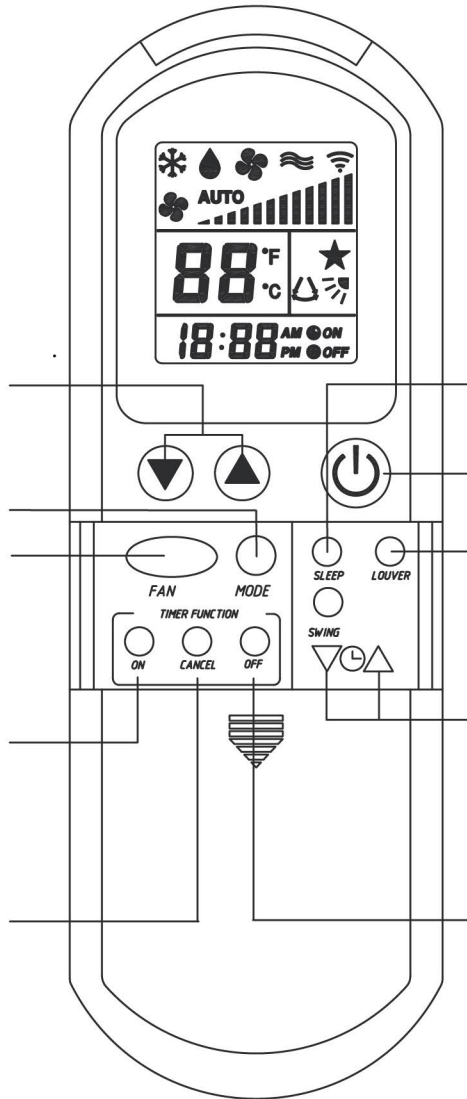
Press to select the fan speed:
Auto-Low-Medium-High
* Under Fan mode, only low, medium and high are available.
* Under Dry mode, fan speed will be inhibited and will not be displayed.

On Timer

First press shows the last timer setting. Subsequent pressing will change the timer setting in 1 minute intervals. Hold down the On button continuously to increase the updating speed.

Cancel Timer

Press to cancel all timer settings.



Sleep

Press to activate Sleep function which automatically adjusts the temperature to provide a more comfortable sleep.

On/Off

Press to switch on or off the unit.

Louver

Press to change louver angle to a fixed position 1,2,3,4, auto swing or stop.

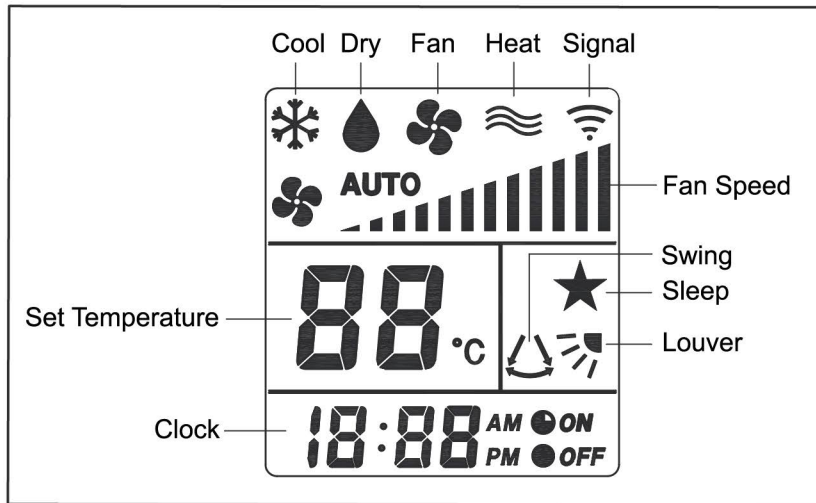
Clock

Press down or up button for 2 seconds to activate. The current clock setting will decrease or increase at 1 minute intervals on one press. The speed of interval updating increase after 4 seconds of continuous key press. It will update at high speed after 6 seconds of continuous key press.

Off Timer

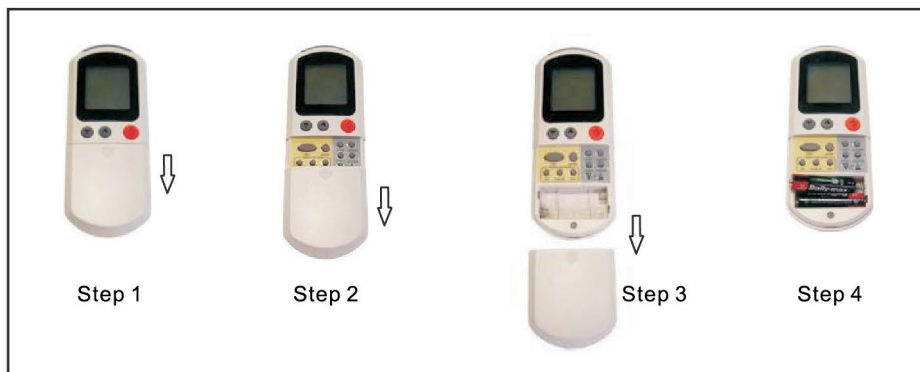
First press shows the last timer setting. Subsequent pressing will change the timer setting in 1 minute intervals. Hold down the Off button continuously to increase the updating speed.

1. LCD display area of the wireless remote controller



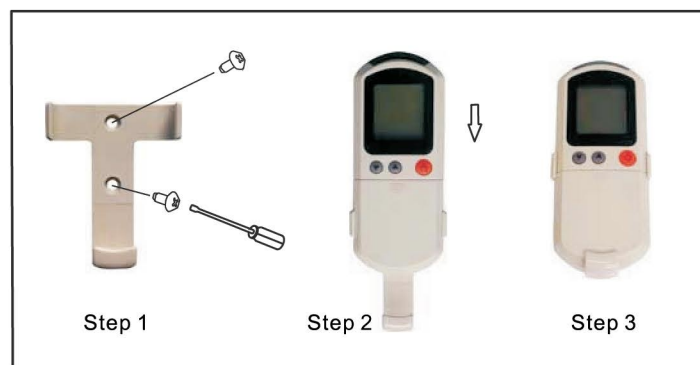
2. Remote controller battery installation

- a. The remote controller use two AAA 1.5V batteries.
- b. Follow below steps to install or replace the battery.
- c. Remove batteries if not used for long period.



3. Wall holder of remote controller

- a. Fix the wall holder on the wall with 2 screws.
- b. Insert the remote controller into wall holder.



INSTALLATION

1) Package checking

1. Check the package to ensure no damage during transportation.
2. Open the package to check the unit and accessories, record the unit serial number.
3. Attention: to lift the unit by the four corners of unit body. Do not lift unit by the panel, condensate drain pipe or the water connections.

2) Safety cautions

1. The unit should be installed in accordance with national wiring regulation.
2. Before installation, observe cautions in the manual and the labels attached on the unit.

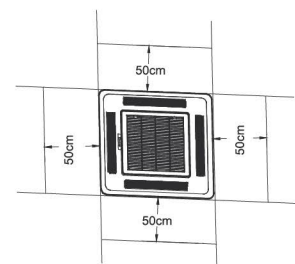
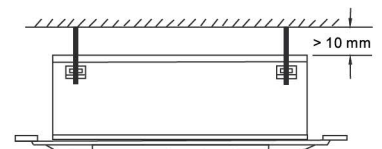
- ⚠ Installation & servicing must be carried out by trained and qualified service personnel only!
- ⚠ Before carrying out any work, put the proper individual protection devices on.
- ⚠ Before carrying out any work, turn off the electric power supply.

3) Operation limits

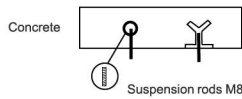
1. Electric power supply: please refer to the label attached on the unit.
2. Minimum entering water temperature: +2 °C [35.6°F]
3. Maximum entering water temperature: +80 °C [176°F]
4. Maximum height off the ground: 3m

4) Installation location

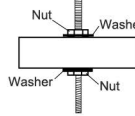
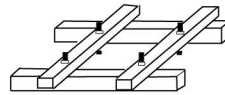
1. Do not install the unit in rooms where flammable gas or alkaline or acid substance are present (kitchens or workshops etc.). The performance will be affected, and unit components like coils, plastics, etc. will be damaged irreparably.
2. To install unit in the center of room if possible, by using a stacker and inserting a plywood sheet between the unit and the elevated stacker.
3. Be sure the installation location have sufficient strength to carry the weight of the unit. The air inlet grille and air discharge louvers are not obstructed and the treated air is able to blow all over the room.
4. Ensure to have sufficient space for maintenance and servicing operations.



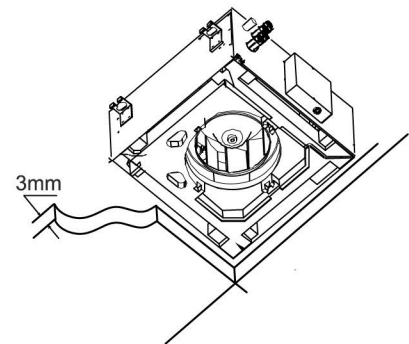
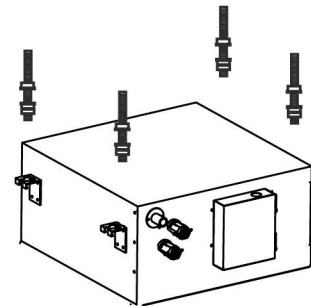
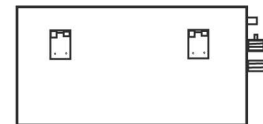
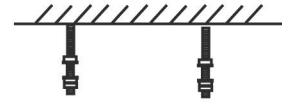
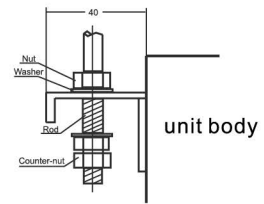
5) Installation to the ceiling



Fixing on cement ceiling.



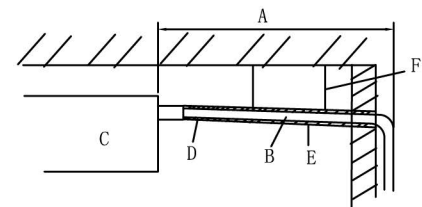
Fixing on wooden beam.



1. To mark the position of suspension rods, water pipes and condensate drain hose, power supply cables, etc.
2. To fix the suspension rods on the cement or wooden ceiling.
3. To lift the unit and fit 4 mounting brackets to the threaded rods. When lifting the unit body into position, take care by its four corners. Do not lift unit by the condensate drain pipe or by the coil connections.
4. Adjust unit position and the distance between the unit body and the lower part of the false ceiling.
5. Ensure the unit is horizontally level, otherwise condensate water can not drain properly. Then, tighten nuts and counter nuts. The rods should have two nuts and washers to lock the unit in position. The mounting brackets will then hook over the washers.
6. After the connection of condensate drainage pipping, inlet and outlet water pipping, to check again and ensure the unit is level.

6) Condensate drainage connection

1. The unit is equipped with a condensate drainage pump. The pump allows a maximum 70cm head from the level of the suspended ceiling.
2. The condensate water must be eliminated by linking the proper drainage hose with the drain pipe on the unit body. The drain pipe outer diameter is 1".
3. The installer should connect proper drainage hose with the unit drainage pipe and seal well. The drain must be installed with a downward slope. Downward sloping angle $> 1/100$.
4. Upon completion, the drainage piping should be insulated. The thickness of pipe insulation should be more than 9 mm.



- A. Max. length 20m
 B. drainage hose
 C. unit body
 D. the thickness of pipe insulation > 9 mm
 E. downward sloping angle $> 1/100$
 F. metal hook

7) Water pipe connection

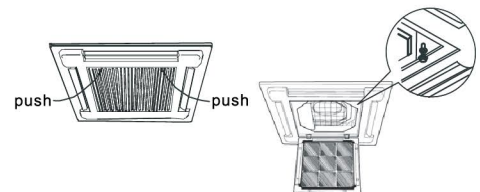
1. To connect and inlet and outlet water pipe properly.
2. To tighten the water connection with two spanners is preferable.
3. Start water inlet supply, turn on the air vent screw on the water inlet pipe to purge out the air inside coil, then close the screw and ensure no leakage of water.
4. After water pipe connection, to insulate the water pipe, connections, valve (if installed), to prevent condensate water.

8) Electrical connection

1. Remove control box cover and refer to the wiring diagram label on the back of the cover.
2. For unit to be installed with valve or without valve, refer to the MAIN PCB configuration in this manual or the notice on wiring diagram label to set PCB respectively.
3. To connect wires properly.
4. After wiring, install control box cover

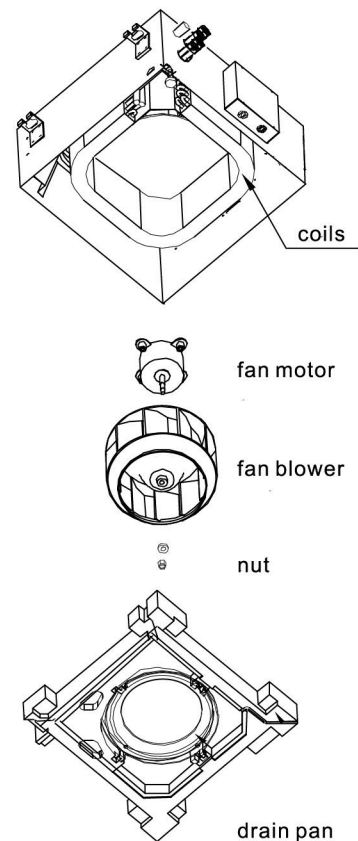
9) Mounting unit panel

1. Unlock the fasteners on the air return grille. Remove the air return grille from unit panel.
2. Move the unit panel to casing. Tighten 4 screws.
3. Reassemble the air return grille.

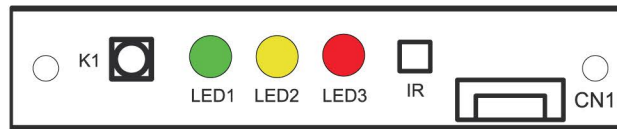


10) Maintenance and service

1. Turn off the main power switch before any operation.
2. Push and unlock the fasteners to open the air return grille.
3. Take out the air filter and wash by water.
4. Check the air filter periodically and before the operating season, to clean or replace while necessary.
5. The service must be carried out by trained and qualified service personnel only!
6. The PCB, transformer, capacitor, terminals are easily accessible by removing the control box cover.
7. The service of internal components, such as coil, fan blower, fan motor involves the removal of the condensate drain pan. During the removal of condensate drain pan, the remained condensate water may be spilled. Please place a plastic sheet under the unit to protect.
8. In the case of service of water coil, please stop the water supply before operation.



LAMP AND RECEIVER BOARD



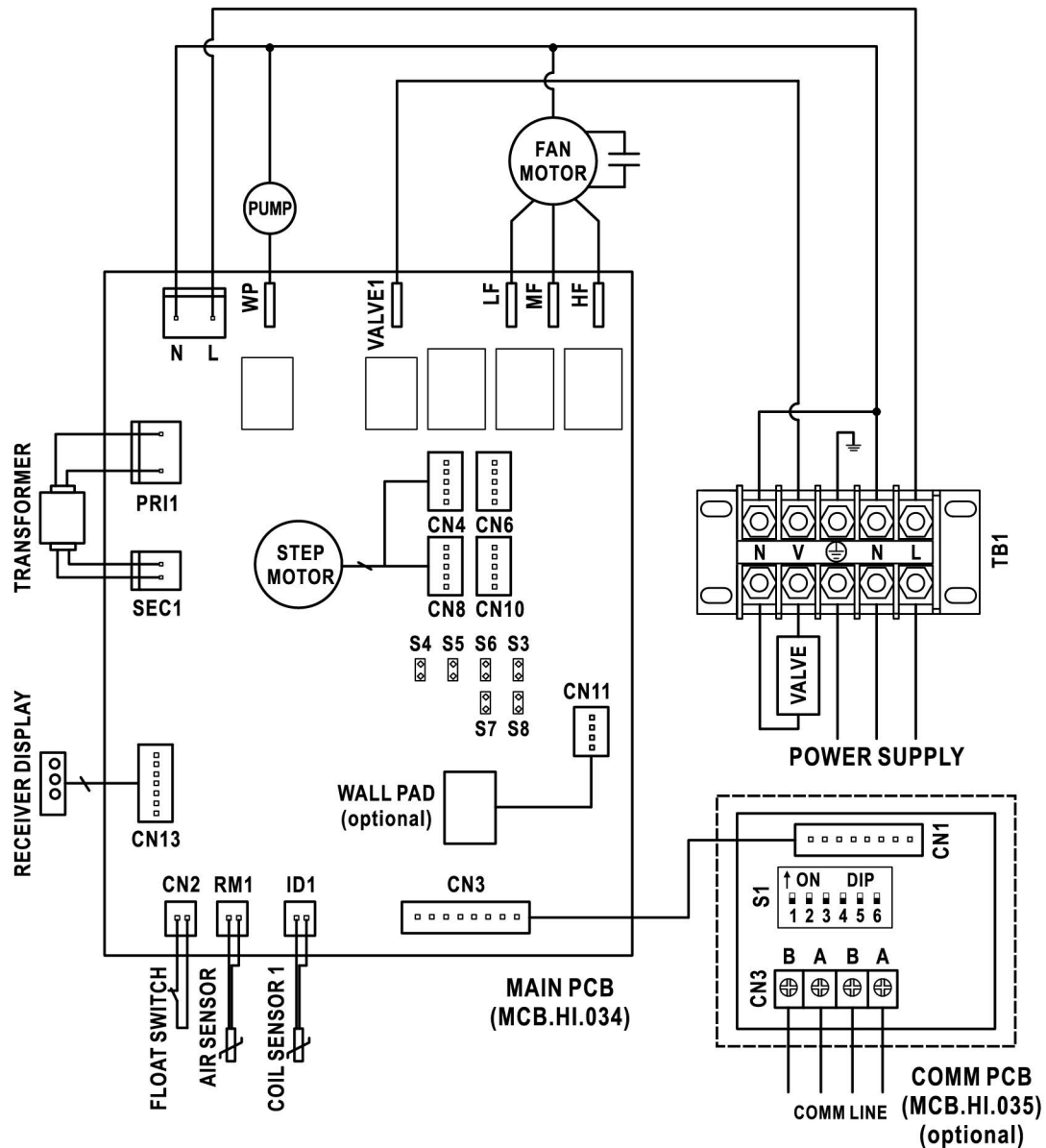
LED3 (RED)	red led lamp on unit under heating operation mode.
LED2 (YELLOW)	yellow led lamp on, Timer on; yellow led lamp off, Timer off;
LED1 (GREEN)	green led lamp on unit under cooling operation mode.
K1 (TOUCH BUTTON)	press to select the operation mode in the sequence of Cool - Heat - Off
IR	IR infrared remote control signal receiver

ERROR CODE DISPLAY

While the GREEN LED lamp flashing, it indicates below error(s):

ERROR(S)	GREEN LED LAMP
Return air sensor failure	Blink 3 times, stop 3 sec
Indoor coil sensor 1 failure	Blink 4 times, stop 3 sec
Indoor coil low temperature protection	Blink 5 times, stop 3 sec
Indoor coil over heat protection	Blink 6 times, stop 3 sec
Water pump failure	Blink 7 times, stop 3 sec

WIRING DIAGRAM

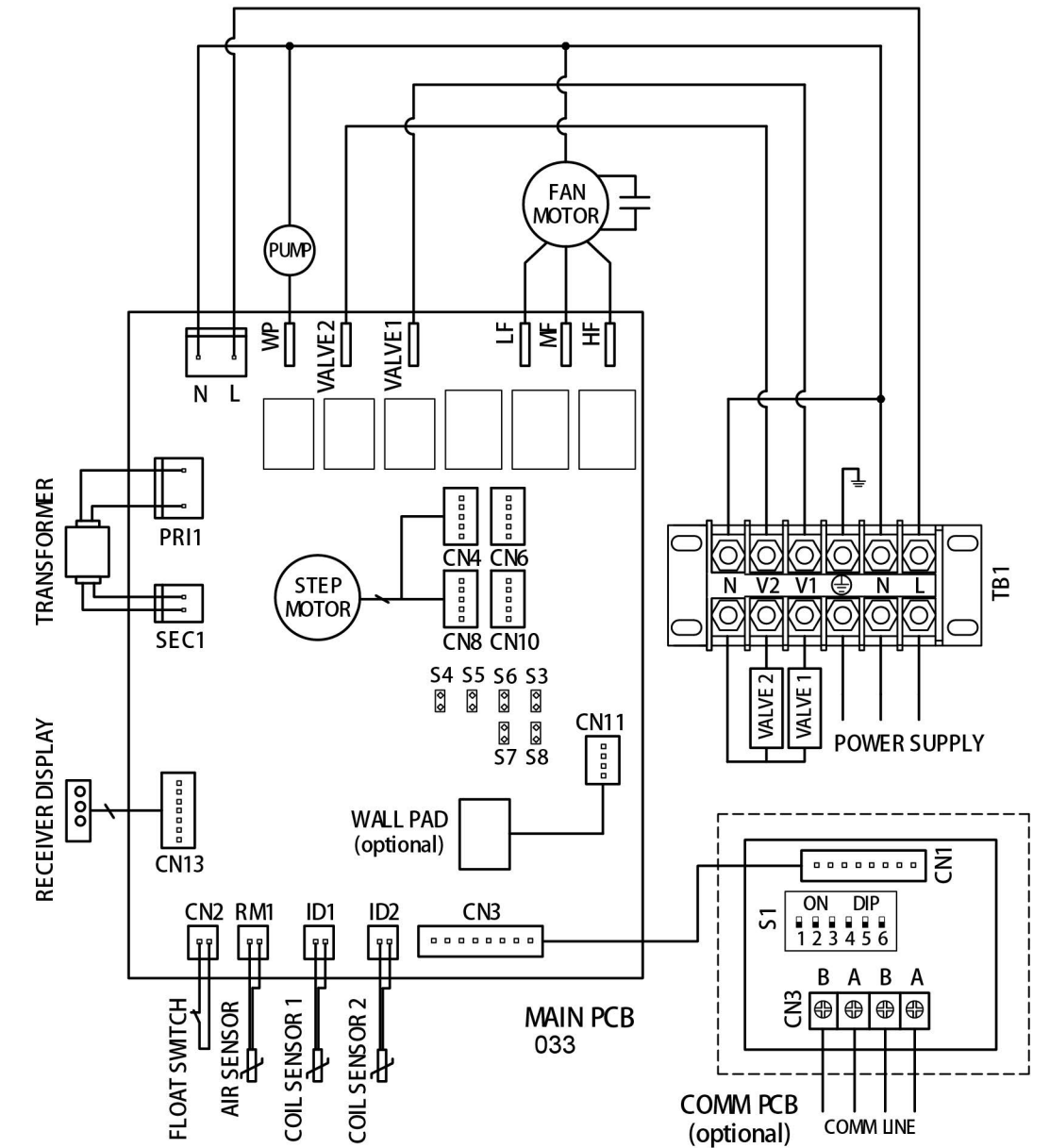


JUMPER S3,S4,S5,S6 CONFIGURATION			LED DISPLAY	
Jumper	Short	Open	LED3 (red)	Heating Mode
S3	Reserved	Louver type for 4-way cassette	LED2 (yellow)	Timer on/off
S4	Reserved	2 pipe unit	LED1 (green)	Cooling Mode
S5	Pre-heat 30 degree	Pre-heat 38 degree	K1 (manual touch button)	Touch sequence: Cool-Heat-Off
S6	With valve	Without valve	IR	IR signal receiver
JUMPER S7-S8 CONFIGURATION			ERROR(S)	GREEN LED LAMP
S7	S8	Model	Return air sensor failure	Blink 3 times, stop 3 sec
Open	Open	Cool-Heat	Coil sensor 1 failure	Blink 4 times, stop 3 sec
Open	Short	Reserved	Coil low temp. protection	Blink 5 times, stop 3 sec
Short	Open	Cool only	Coil over heat protection	Blink 6 times, stop 3 sec
Short	Short	Reserved	Water pump failure	Blink 7 times, stop 3 sec

Wiring Diagram.4-way cassette fan coil unit.2 pipe system



WIRING DIAGRAM

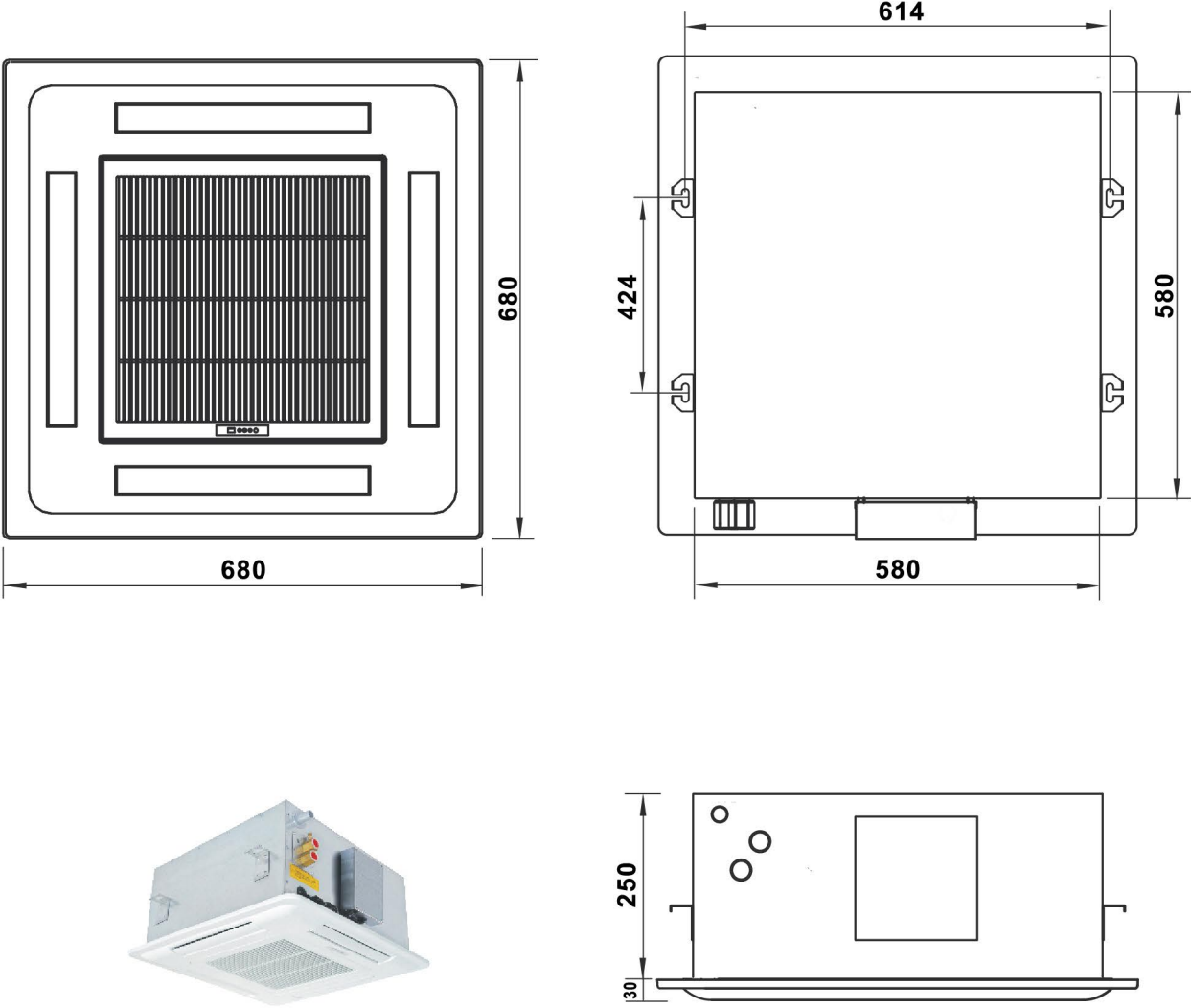


JUMPER CONFIGURATION				LED DISPLAY	
Jumper	Short	Open	LED3 (RED)	Heating Mode	
S3	Reserved	Louver type for 4-way cassette	LED2 (YELLOW)	Timer on/off	
S4	4 pipe unit	2 pipe unit	LED1 (GREEN)	Cooling Mode	
S5	Pre-heat 30 degree	Pre-heat 38 degree	K1 (TOUCH BUTTON)	Manual touch button	
S6	With valve	Without valve	IR	IR signal receiver	
			ERROR(S)		GREEN LED LAMP
S7	S8	Model	Coil sensor 2 failure (4 pipe)	Blink 2 times, stop 3 sec	
Open	Open	Cool-Heat	Return air sensor failure	Blink 3 times, stop 3 sec	
Open	Short	Cool-Heat+Booster Heater	Coil sensor 1 failure	Blink 4 times, stop 3 sec	
Short	Open	Cool only	Coil low temp. protection	Blink 5 times, stop 3 sec	
Short	Short	Cool+Primary Heater	Coil over heat protection	Blink 6 times, stop 3 sec	
			Water pump failure	Blink 7 times, stop 3 sec	

Wiring Diagram.4-way cassette fan coil unit.4 pipe system

DIMENSION DRAWING

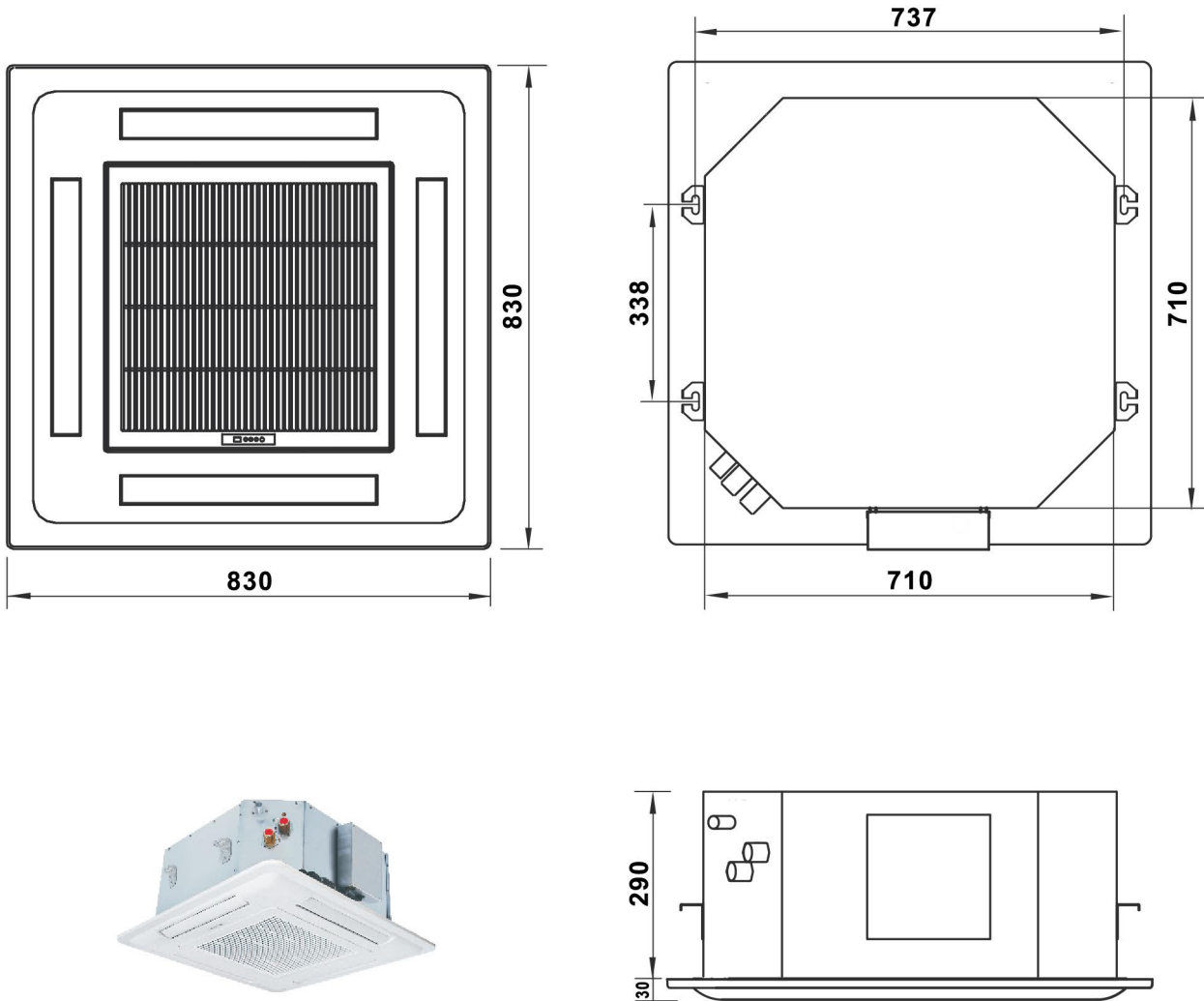
UNIT PANEL 680*680 SERIES



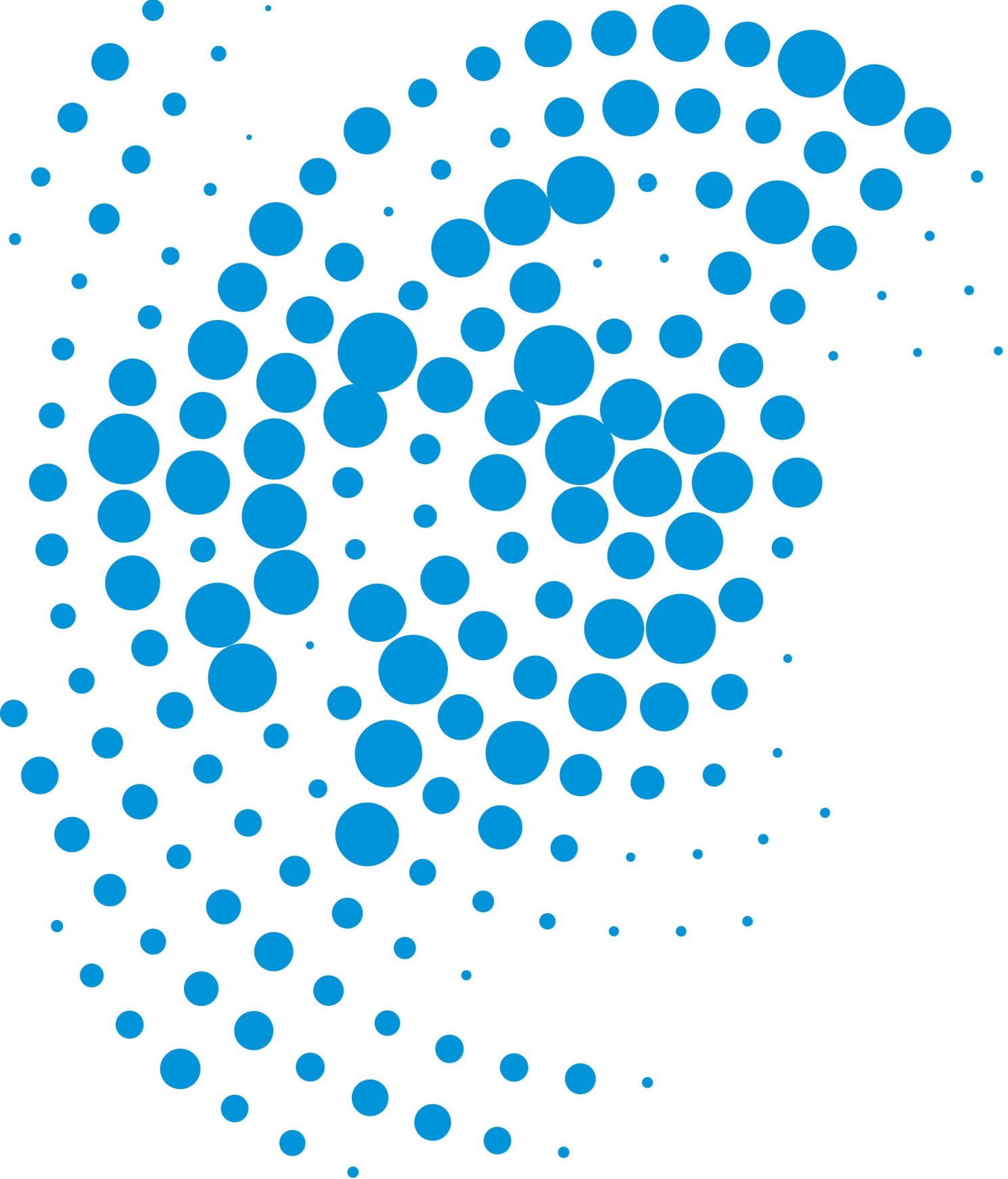
(mm)

DIMENSION DRAWING

UNIT PANEL 830*830 SERIES



(mm)



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