Installation & operations manual

HWW/EC 22÷62

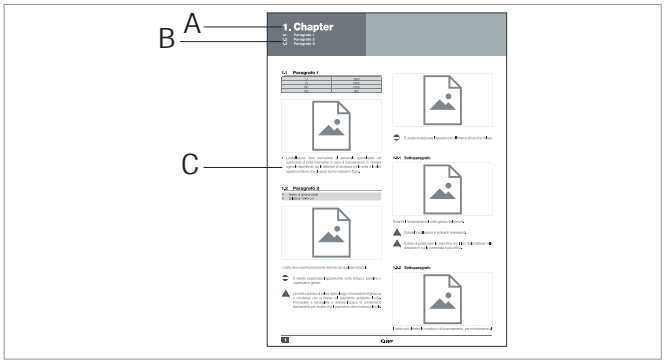
WALL MOUNTED FAN COIL UNITS

CLINT®
CLIMATIZZAZIONE INTEGRATA

1. General Information

1.1 Document information

A	Chapter
B	Sequence of paragraphs
C	Operations



- The manual is divided into chapters as follows:
  - a “Section of preliminary information” with the sequence of operations, guidelines and warnings on the operations that relate to the topic of the chapter.
  - a number of “Operational data sheets” split by topic with the sequence of operations to be performed.

- The preliminary precautions must be read before performing any of the following operations.
- The “Technical information” chapter contains useful detailed information on the product for installation, use and maintenance.

This document uses the following definitions:
- Danger zones: any area inside and/or near the unit in which the presence of an exposed person constitutes a risk to his/her own health and safety.
- Exposed person: any person who is entirely or partially in a danger zone.
- Operator/Maintenance Technician: the person/s assigned to operate, adjust, service, repair or move the unit.

1.1.1 Symbols

- This publication contains the following symbols:

⚠	Danger	Draws attention to actions that can cause serious injury if not performed correctly.
⛔	Prohibited	Draws attention to actions that impose a prohibition.

⚠ **General precautions**

- The installation site must be established by the system designer or other qualified professional, taking account of the technical requisites and current standards and legislation.

- It is advisable to place the unit close to the installation site without removing it from the packaging. Do not put heavy tools or weights on the packaging

- Upon receipt the unit and the packaging must be checked for damage sustained in transit and if necessary, a damage claim must be filed with the shipping company.

- Check immediately for installation accessories inside the packaging. The appliances must be installed by a qualified company in accordance with the laws and regulations in force in the country of installation.

- These appliances have been designed for cooling or heating environments and should only be used for this purpose in compatibility with their performance characteristics. Under no circumstances can the Company be held liable under contract or in tort for damage caused to property or injury to persons or animals due to incorrect installation, regulation and maintenance or to misuse.

- These appliances must be installed in such a way as to enable treated air to circulate throughout the room and allow the minimum distances required for technical maintenance operations.

- During storms put the installation on/off switch to “off”.

- This instruction booklet is an integral part of the appliance and should therefore be carefully preserved and ALWAYS accompany the appliance, also in the event of transfer to another owner or user or into another installation. Should the booklet be damaged or lost, request a copy from the Area Service Centre.

- Repair or maintenance work must be carried out by the After-Sales Service Centre or by qualified personnel in accordance with instructions given in this booklet. Do not alter or tamper with the appliance, since hazardous situations could be created and the manufacturer of the appliance will not be liable for any damage or injury caused.
- Do not lift the unit by the condensate drain discharge pipe or by the water connections; lift it by the four corners.
- Check and note the unit serial number.

1.2 Operating limits

Minimum entering water temperature	+2 °C
Maximum entering water temperature	+70 °C
Water side maximum pressure	1000 kPa

1.3 Basic safety rules

Using electrically-operated products implies the observance of certain basic safety rules, such as those given below:

- Children and unassisted disabled persons must not use the appliance.
- Do not touch the appliance when barefoot or parts of the body are wet or damp.
- Do not carry out any cleaning until the appliance has been disconnected from the mains electricity supply by putting the installation on/off switch to “off”.
- Do not alter the safety or regulating devices without the permission and instructions of the manufacturer of the appliance.
- Do not pull, detach or twist the electric cables connected to the appliance, even if disconnected from the mains electricity supply.
- Do not climb onto or place any objects on top of the appliance.
- Do not spray or direct water directly onto the appliance.
- Do not insert sharp pointed objects through the air delivery and intake grilles.
- Do not open the flaps to access internal parts of the appliance unless the installation on/off switch is on “off”.
- Do not leave the packaging material within reach of children, but dispose of properly since it is a potential source of danger.

1.4 Technical features

Frame.
High design appearance with rounded lines, structure in ABS with improved mechanical features resistant to aging.
Heat exchanger coil.
Heat exchanger coil in copper tubing and aluminium fins with elevated heat exchanging surfaces, equipped with air vent and water drain. 3-Way water valve incorporated inside the unit and flexible hydraulic hook-ups for easy installation and maintenance operations.
Fan.
Tangential type with EC Inverter motor, maximum silent operations, air flow fins with adjustable horizontal direction and motorized deflector fin controllable via remote control.
Air filter.
Regenerabile-type easy removal and cleaning of air filter, maintaining appropriate air quality.
Microprocessor.
Microprocessor control with timer for on/off programming. Program for automatic operations, cooling, heating and ventilation; nocturnal wellness program and dehumidifier. The unit features serial interface, Master/Slave management and window/economy contact.
Remote control.
Infrared with wall support.

1.5 Declaration of conformity

The fan coils are in conformity with European Directives:
2014/30/UE EMC directive
2014/35/UE LVD directive
2011/65/UE RoHS directive

And below standards:
- EN 60335-1 Ed 5 Household and similar electrical appliances
- EN 60335-2-40 Ed 4.2 - Household and similar electrical appliances

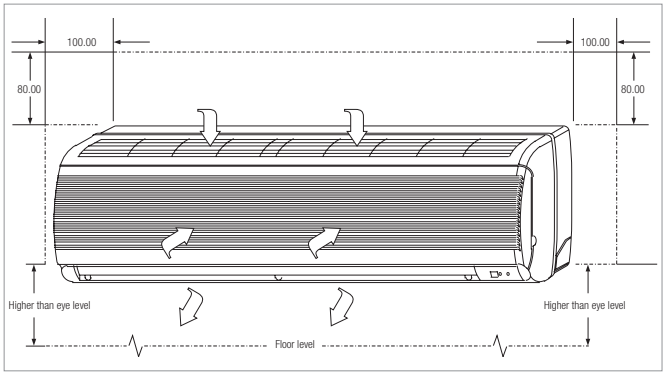
2. Installation

2.1 Location for fan coil unit

- Select the location for the high-wall unit with the following considerations:

1. The air inlet and outlet area should be clear without obstructions. The air should flow freely.
2. The high wall unit should be mounted on solid wall.
3. The location should allow easy access to connect water pipes easily achieve drainage.
4. Ensure the clearance around the fan coil unit conforms to the following drawing.
5. The unit should be installed higher than eye level.
6. Avoid installing the unit with direct sunlight.
7. The signal receiver on the unit must be kept away from any high frequency emission source.
8. Keep the unit away from fluorescent lamps, which may affect the control system.
9. Avoid electromagnetic control system interference, ensure control wires are installed separately from 110-240 VAC power supply wires.
10. Use shielded sensor cables in where electromagnetic waves present,
11. Install a noise filter if the power supply creates any disruptive noises.

Avoid installing the unit from direct sunlight.



Maintenance & service space
Air flow direction

2.2 Mounting plate installation

1. After a suitable place for installation has been selected, place the mounting plate horizontally on the wall. Make sure the alignment is horizontal. Use a plumb line, if available.
2. Refering to the figure below, mark the location for the wall plugs and the hole for the pipings.

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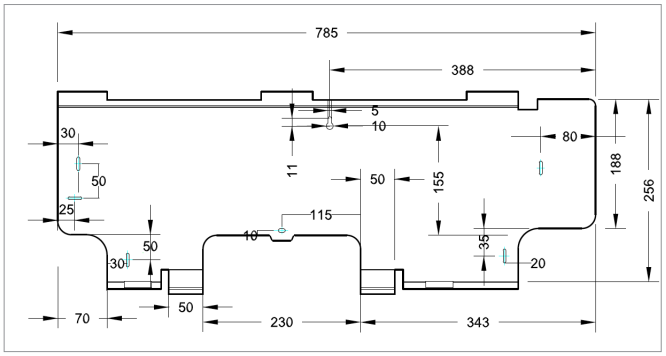

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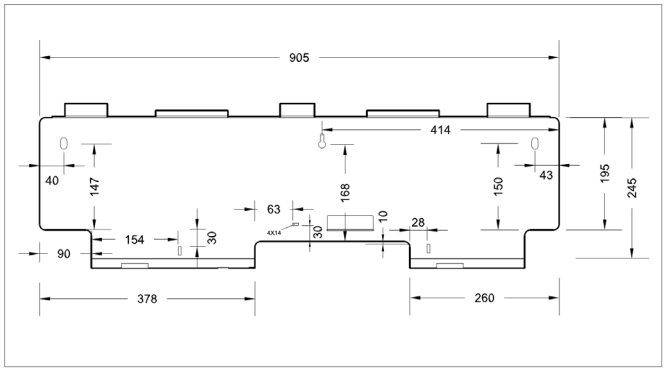
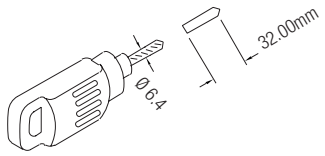
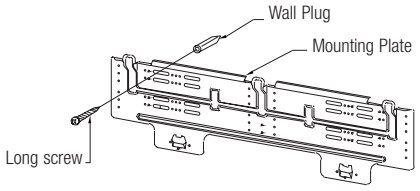


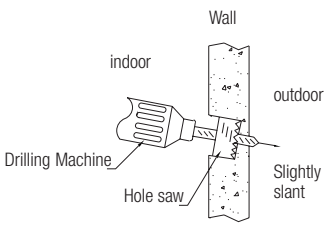
3. Drill 6.4 mm diameter, 32.0 mm depth on the wall.
4. Insert the wall plugs.
5. Secure the mounting plate and check for stiffness.
6. Drill a piping hole 70.0 mm diameter hole either from the right or to the left indoor side and make sure that the hole is slightly slant downward.
7. If the wall is hollow please provide a sleeve for tube assembly to prevent dangers cause by mice biting the connecting cables.



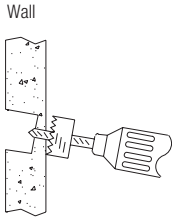
Drill diameter 6.4 mm depth 32.0 mm holes



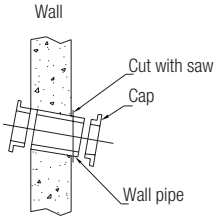
Secure mounting plate and check stiffness



Drill a piping hole with 70.0 mm diameter concrete drill or hole saw front indoor side.



Drill from the outside.

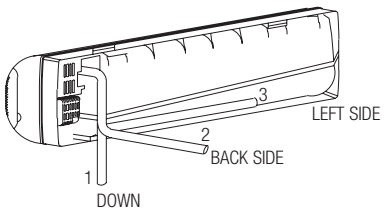


Set wall-pipe and caps (not supplied)

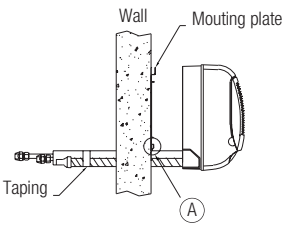
2.3 Piping and drainage of fan coil unit

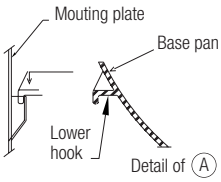
1. Route the fan coil tubing with drain hose to the hole. There are three possible tubing routes. For the route 1 and 3, cut the plate to pass the pipe through it, remove sharp edge left on the base pan.

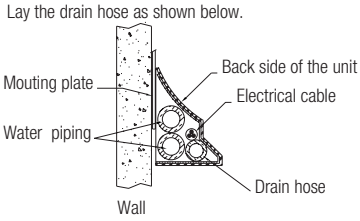
Tubing route



2. Insert the fan coil unit piping and drain pipe through the hole.
3 Tape the tubing, drain hose, and connecting cable.
4. For the horizontal piping, make sure that are laid along the groove at the back of the unit and secure the piping using the piping holders (2 pieces) before fixing to the mounting plate

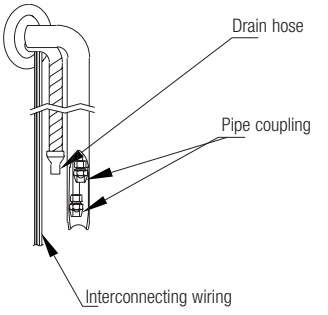


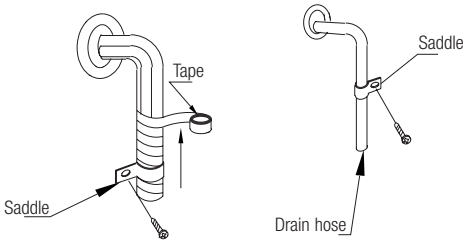


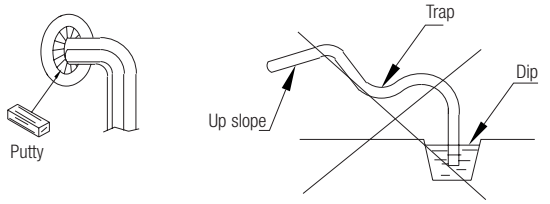


5 Secure the unit to the mounting plate.
6. Connect the chill water piping and make sure that the seals are fitted neatly.
7. Connect the drain hose and tape over the connecting parts.
8. Ensure that the drain hose has no traps or dips to embed the water flow.
9. Carefully seal any wall opening from weather to avoid any ingress of water.

Outside of the wall







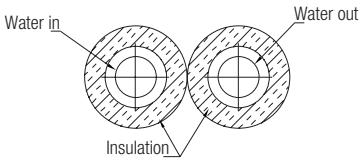
WRONG

2.4 Field piping connections

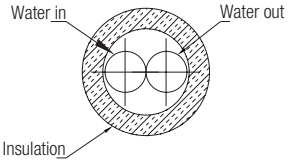
The water lines must be installed level in both the horizontal and vertical plane.

Insulation of pipes:

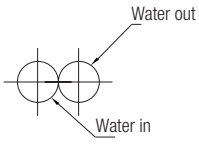
1. The pipe insulation should cover both INLET and OUTLET pipes as shown below.
2. Use the insulation of polyethylene foam minimun of 6 mm. in thickness.



YES



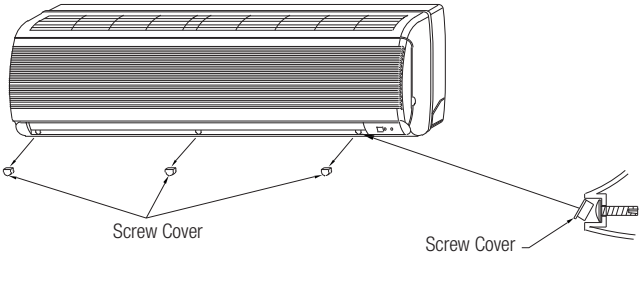
NO



NO

2.5 How to remove the frame grille

1. Set the horizontal louver to horizontal position.
2. Remove the screw covers of the frame grille as shown in the illustration below and then remove the mounting screws.
3. Open the front panel by grasping the panel at the side rounded groove and pulling it towards you.
4. Remove the remaining screw located at the center. (on some models there is one more screw on the right side).
5. Grasp the lower part of the frame grille and pull it out.



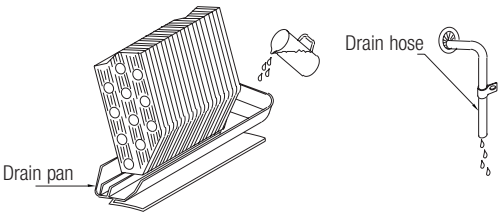
How to install the frame grille on the fan coil unit

Install the frame grille in the opposite order of “HOW TO REMOVE THE FRAME GRLLE”. When the frame grille is removed and mount again, take the following actions: before fastening the screws, be sure to hook the top inside 3 or 4 locks of the frame grille. Close the front panel and tight the gap left between the frame grille by pushing the location 1 , 2 , 3 and 4 until a “click” sound hears.

- If cooling (dry) operation is made without closing the front panel properly, dew can be deposited on the front grille surface. In additional if the gap between the front panel and the frame grille become wider, will spoil the appearance.

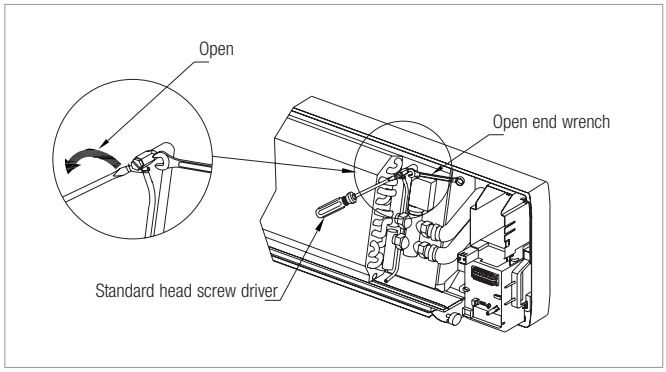
2.6 Checking the drainage

1. Pour a glass of water Into the drain pan.
2. Ensure that the water flows out from the drain hose of fan coil unit.



2.7 Air purging

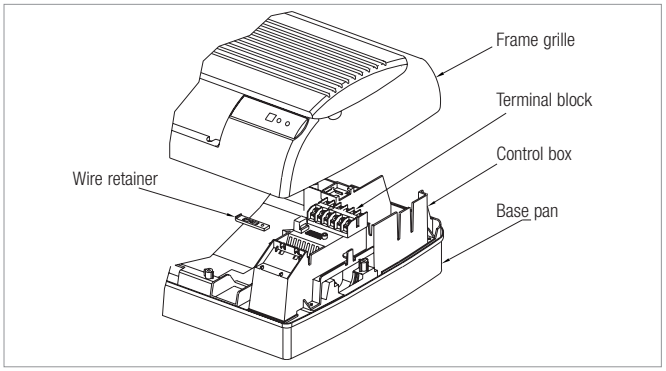
1. After connecting the water inlet and outlet pipes to the main supply lines, turn on the main breaker and operate the unit on COOLING mode. Please refer to the operation manual.
2. Open the water inlet valve and flood the coil.
3. Check all connection for water leak, if no leak found open the purging valve by using standard head screw driver and support with an open end wrench, then purge the air trap inside the coil. When prefoming this, take care not to get touch with the electrical parts.
4. Close the purging valve when there are no bubbles appears.
5. Open the water outlet valve.

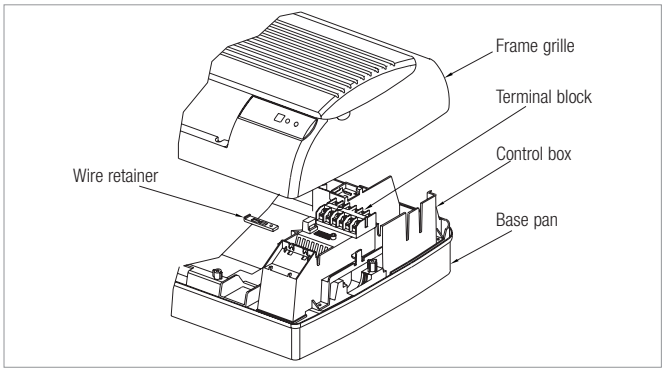


3. Electrical connections

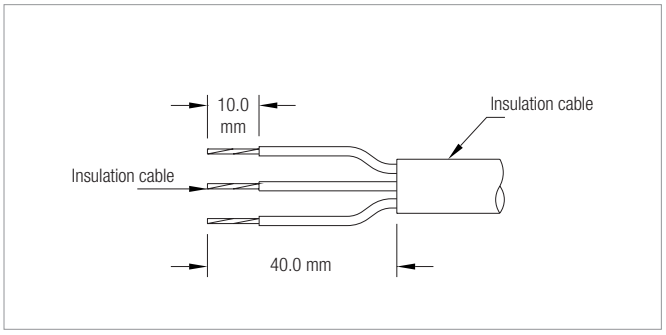
3.1 Electrical connections

1. After removing the front grille, connect the field wiring.
2. Remove the wire retainer.
3. Insert the connecting cable (according to local norms) into pipe hole on the wall.





4. Length of connecting cable insulation to be removed.



5. Insert the connecting cable fully into the terminal block and secure it by screw tightly.
6. Secure the connecting cable.

Caution:

- Be sure to turn off the main power supply before open the frame grille for servicing.
- Always refer to the wiring diagrams supplied with this manual.
- Check local electrical codes and also any specific wiring codes.

Power outlet

Connect the unit to adequate power outlet.
(Rating voltage ± 10% during operation).

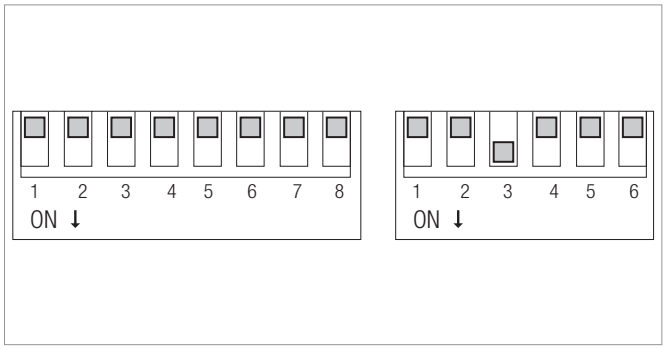
3.2 Configuration Settings

There are 2 DIP switches set on the PCB

1. DIPA-S1 (8 positions)
- SW1 – SW6: used for master-slave / BMS network address.
- SW7 – SW8: used for operating mode configuration.

2. DIPB-S2 (6 positions)
- SW1: Occupancy / economy mode selection.
- SW2: 2-pipe / 4-pipe configuration selection.
- SW3: Thermoelectric valve configuration selection (2-pipe system only).
- SW4: Pre-heat protection temperature selection.
- SW5 – SW6: brushless DC fan motor configuration.

Figure 1
DIPA –S1 DIPB –S2



3. Thermoelectric Valve Configuration
On board DIP switch SW3 of DIPB is used for this configuration.

SW3	Thermoelectric valve (MTV)	
1	With valve	0 = OFF
0	No valve	1 = ON

Unit Configuration
On board DIP switches of DIPB are used for the below configurations.

SW1	PR-O contact setting
0	Economy contact
1	Window contact

SW2	System setting
0	2-pipes system - not used
1	4-pipes system

SW4	Preheat setting
1	28°C
0	36°C

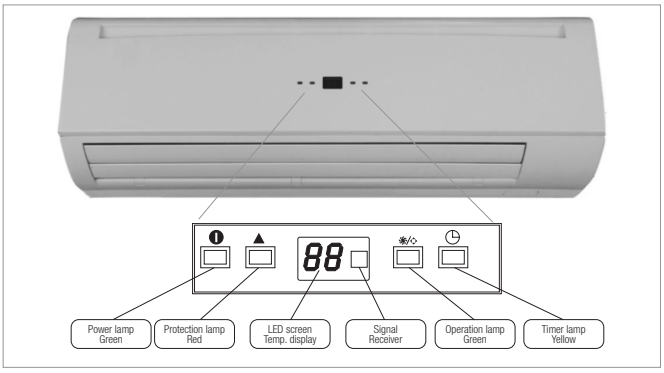
4. Mode configuration

DIPA-S1		Model
SW7	SW8	Model setting
0	0	Cool-Heat
0	1	Cool-Heat + booster Heater
1	0	Cooling only
1	1	Cool + primary Heater

5. High Wall Unit ON/OFF
   There are 3 ways to turn the system on or off:
   a) By the ON/OFF button on the handset or wired wall pad.
   b) By the programmable timer on the handset or wired wall pad.
   c) By the manual control button on the high wall unit.

6. Power On Setting
   a) Handset only user interface: When the power ON signal is received by the high wall unit, the Mode, Fan Speed, Set temperature and Louver setting will be the same as the handset setting before the last power OFF.
   Wall-pad only OR wall-pad and handset user interface: When the power ON signal is received by the high wall unit, the Mode, Fan Speed, Set temperature, Louver setting and Timer ON/OFF weekly program will be the same as the wall pad setting before the last power OFF

3.3 LED Display and Error Description



Power / Operation LED light (both green)	
Unit on	Power LED Off, Operation LED On
Unit in standby	Power LED On, Operation LED Off

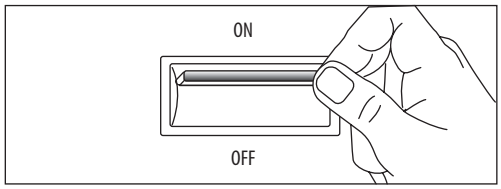
For all units - Operation LED light (Green)				
Error Description	**Blink**	**LED Display**	**Reason**	**Remedy**
Electrical Heater failure	Green LED blinks 1 times, stops for 3s	E1	Only for unit with EH. EH safety switch is open.	1. Change fan speed to high. 2. Replace the damaged EH safety switch.
Indoor coil sensor 2 failure	Green LED blinks 2 times, stops for 3s	E2	Ti2 sensor unplugged or damaged.	1. Check if Ti2 plug is connected or not. 2. Check if sensor's resistance is correct or not.
Return air sensor failure	Green LED blinks 3 times, stops for 3s	E3	Room sensor unplugged or damaged.	1. Check if Tr plug is connected or not. 2. Check if sensor's resistance is correct or not.

For all units - Operation LED light (Green)				
Error Description	**Blink**	**LED Display**	**Reason**	**Remedy**
Indoor coil sensor 1 failure	Green LED blinks 4 times, stops for 3s	E4	Ti1 sensor unplugged or damaged.	1. Check if Ti1 plug is connected or not. 2. Check if sensor's resistance is correct or not.
Indoor coil low temperature protection	Green LED blinks 5 times, stops for 3s	E5	Water temperature is lower than 3ºC.	Check the water temperature.
Indoor coil over heat protection	Green LED blinks 6 times, stops for 3s	E6	Water temperature is higher than 70ºC.	Check the water temperature
EC motor failure	Green LED blinks 9 times, stops for 3s	E9	No EC motor feedback	1. Check DIPB-SW5 and SW6 setting. 2. Check the EC motor.
Anti-frozen protection	Green LED blinks 11 times, stops for 3s	E11	When unit is standby, Tr<2ºC.	1. Turn on unit to keep Tr higher than 5ºC

4. Switching on

4.1 First time of switching on

- Check all the safety conditions have been satisfied
- Check that the appliance is correctly positioned. The cassette unit must be installed in an absolute horizontal position.
- Check condensate drainpipe slope
- Make sure that air filter is clean and properly installed.
- Make sure that the condensate water pump installed inside the unit is in working order.
- Due to transport vibration it is possible that the float switch is suspended and the pump might not work correctly. For this reason, you must do the following to ensure the unit works effectively:
- Fill the internal drain pan (manually) with enough water to check the drain pump is working.
- Fill the internal drain pan by pouring water through the external drain pan.
- If everything is functioning correctly, the water will be expelled from the unit into the pipe work you have installed. If the water is not expelled, please manually check the float switch is not faulty.
- Make sure that the air filter is clean and properly installed.
- Ensure that voltage and current values correspond with the unit nameplate values; check electrical connections.
- Verify that the louvers are open.
- Put the installation on/off switch to “on”



Automatic restart
The fan coil is fitted with a device that allows automatic restart in the event of a blackout and subsequent return of the power supply.
The fan coil restarts in the previously set mode of operation.

4.2 Unit ON/OFF

There are 3 ways to turn the system on or off:
a) By the ON/OFF button on the remote handset or wired wall pad;
b) By the programmable timer on the handset or wired wall pad.
c) By the manual control button on the air conditioner.

4.3 Auto-Restart

The system uses a non-volatile memory to save the present operation parameters when the system is turned off or in case of system failure or cessation of power supply.
The restored parameter data-set depends on the type of user interface.
a) Handset only user interface:
When the power on signal is received by the air conditioner and no wired wall-pad is installed, the Mode, Fan Speed, Set temperature and Louver/Swing setting will be the same as the handset setting before the last power off.
b) Wall-pad only OR wall-pad and handset user interface:
When the power on signal is received by the air conditioner and a wired wall-pad is installed, the Mode, Fan Speed, Set temperature, Louver/Swing setting and Timer ON/OFF weekly program will be the same as the wall pad setting before the last power off.

5. Networking System

5.1 Master-Slave Network

The control PCB can be set either as a master unit or slave unit.

Master Unit Function

a) The master unit sends data regarding its setting to the slave unit.
b) The master unit settings are unit ON/OFF, Mode, Fan Speed, Timer, Clock, Set Temperature, Swing Function, and Sleep Function for handset operation.
c) The master unit settings are unit ON/OFF, Mode, Fan Speed, Timer, Clock, Set Temperature, Swing Function, and Sleep Function for wall pad operation.

Slave Unit Function

a) The slave unit receives data regarding its settings from the master unit.
b) The slave unit is allowed to change to a locally desired setting by local controller as long as there are no subsequent changes to the settings of the master unit.
c) The slave units can be set individually for timer ON/OFF function by handset or wall pad. The handset cannot override the wall pad timer and clock setting.

5.2 Master Control Unit Settings

The control PCB can receive data from both wireless Infrared handset and wired wall pad.

Using Remote Control Handset to Set Master Control Unit:

1. Connect all the units PCBs according to the wire color and type of connector.
2. Select the master unit by setting DIPA-S1 SW6 to ON (=1) in the PCB.
3. Ensure the DIPA-S1 SW6 is set to OFF (=0) in the PCB on each slave unit.
4. Switch on the units by connecting the main power supply.
5. Using the handset, set the operation parameters for the master unit which will automatically send the settings to the slave unit.
6. Master unit will beep twice confirming receipt of commands while the slave unit will beep once.

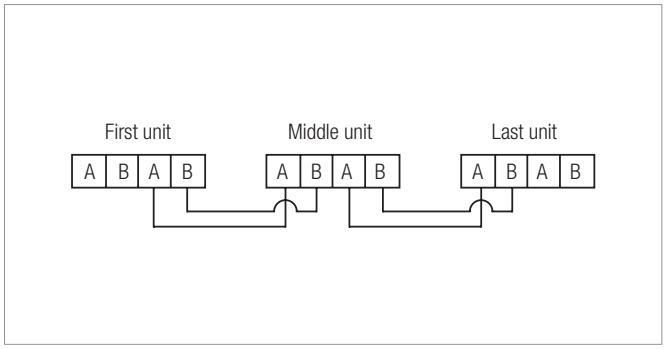
Using Wall pad to Set Master Control Unit:

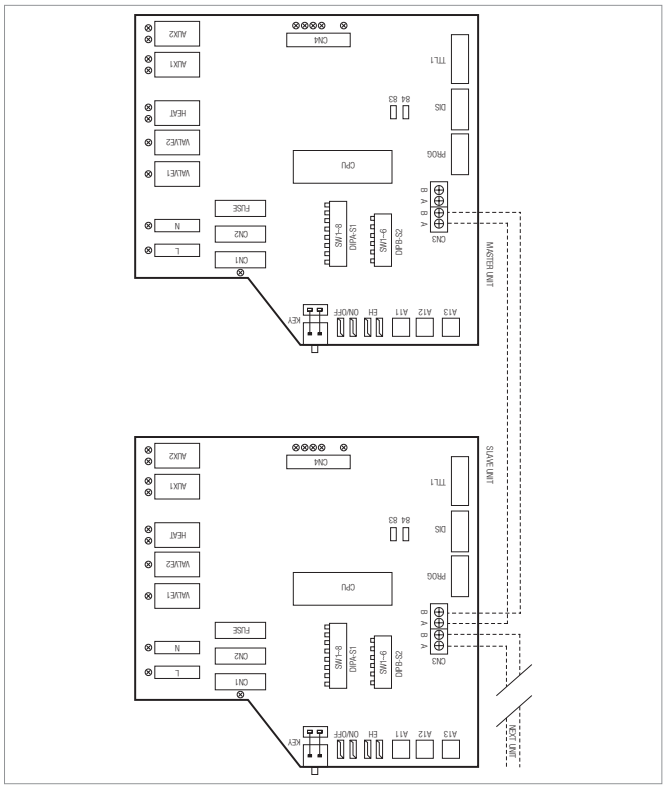
1. Connect all the units PCBs according to the wire color and type of connector.
2. Select the master unit by setting DIPA-S1 SW6 to ON (=1) in the PCB.
3. Ensure the DIPA-S1 SW6 is set to OFF (=0) in the PCB on each slave unit.
4. Provide each slave unit with an addressable code by configuring SW1 – SW5 of DIPA-S1 according to the DIP switch setting table.
5. Switch on the units by connecting the main power supply.
6. Using the wall pad set the operation parameters for the master unit which will send the setting to the slave units by Global-control communication or Addressable communication methods.
7. Master unit will beep twice confirming receipt of commands while the slave unit will beep once.

5.3 Master-Slave Network Setup

1. Disconnect the communication plug from the control box
2. Communication plug A, B, A, B is printed on the main PCB. When you connect the wires, please ensure connection of A to A and B to B.
3. Connection wire

   i. If the total length of wire is more than 1000 m, please use shielded wire in order to protect the signal transmission.
   ii. Complete wire connection





iii. Wire connection check

1) After the wire connection is completed, please check that the wire colours correspond.
2) Check the wire contact by using a multimeter.
3) Check 1 and 2, 3 and 4, 5 and 6 to be sure the connections are correct.
4) If the resistance between two wire contacts is too high, please check and reconnect the wire contacts.

4. Reconnect the communication plug to the control box

5.4 Master-Slave Communication Method

There are two modes for Master-slave structure.

Global Control communication

The Master unit will broadcast the settings to all slave units. During normal operation, slave units can receive commands from its local wireless handset and wall pad control panel. Upon reception of master global commands, all slave unit settings will be replaced by the master settings.

Addressable communication

The Master controller must be the LCD wall pad. Slave unit parameters are set as usual. Upon receiving the control commands from a master, the addressed slave unit settings will be replaced by the master settings.

DIPA-S1 address setting: ON=1, OFF=0.

DIPA-S1 SW6	DIPA-S1 SW5	DIPA-S1 SW4	DIPA-S1 SW3	DIPA-S1 SW2	DIPA-S1 SW1	Unit No.	Remark
1	0	0	0	0	0	01	Master
0	0	0	0	0	1	02	Slave
0	0	0	0	1	0	03	Slave
0	0	0	0	1	1	04	Slave
0	0	0	1	0	0	05	Slave
0	0	0	1	0	1	06	Slave
0	0	0	1	1	0	07	Slave
0	0	0	1	1	1	08	Slave
0	0	1	0	0	0	09	Slave
0	0	1	0	0	1	10	Slave
0	0	1	0	1	0	11	Slave
0	0	1	0	1	1	12	Slave
0	0	1	1	0	0	13	Slave
0	0	1	1	0	1	14	Slave
0	0	1	1	1	0	15	Slave
0	0	1	1	1	1	16	Slave
0	1	0	0	0	0	17	Slave
0	1	0	0	0	1	18	Slave
0	1	0	0	1	0	19	Slave
0	1	0	0	1	1	20	Slave
0	1	0	1	0	0	21	Slave
0	1	0	1	0	1	22	Slave
0	1	0	1	1	0	23	Slave
0	1	0	1	1	1	24	Slave
0	1	1	0	0	0	25	Slave
0	1	1	0	0	1	26	Slave
0	1	1	0	1	0	27	Slave
0	1	1	0	1	1	28	Slave
0	1	1	1	0	0	29	Slave
0	1	1	1	0	1	30	Slave
0	1	1	1	1	0	31	Slave
0	1	1	1	1	1	32	Slave

If the master unit is equipped with a wireless handset only, it can only use the Global-Control communication method. If it is equipped with a wall pad, it can use both communication methods.

5.5 Open Modbus protocol

Transfer Mode: RTU, BAUD Rate: 9600bps, 8 data bit, 1 stop bit, None parity bit. The communications require a delay of 80ms between reading an answer and sending the next command. All temperatures are equal to reading data*10 accuracy: 0.1 degree C.

Supported Functions:

Function Code	Function Description
01(01H)	Read Coils
02(02H)	Read Discrete Inputs
03(03H)	Read Holding Registers
04(04H)	Read Input Registers
05(05H)	Write Single Coil
06(06H)	Write Single Register
15(0FH)	Write Multiple Coils
16(10H)	Write Multiple Registers
255(FFH)	Extended Commands which are used to test unit

Valid Error code table:

Error code	Description	Definition
01 (01H)	Invalid commands	Received commands beyond valid commands
02 (02H)	Invalid data address	Data addresses beyond valid data address
03 (03H)	Invalid data	Data beyond definition range
04 (04H)	Write data not successful	Write data did not succeed

Coils table:

Description	Address	Type*	Remark
Unit ON/OFF	100000	R/W	
Sleep mode	100001	R/W	
Louver swing	100002	R/W	
Reserved	100003 to 100015		

Discrete table:

Description	Address	Type*	Remark
MTV1	200000	R	
MTV2	200001	R	
AUX1	200002	R	
AUX2	200003	R	
Condensate pump	200004	R	
Electrical Heater	200005	R	
Wired wall pad	200006	R	
PRO	200007	R	
Float switch	200008	R	
Reserved	200009	R	
EH safety switch	200010	R	
Unit ON/OFF status	200011	R	Testing purpose only.

* **R** = read only, W = write only, R/W = read and write.

Holding Register table:

Description	Address	Type*	Remark
Mode setting	300000	R/W	Cooling mode = 01(H) Humidify mode = 02(H) Fan mode = 04(H) Heating mode = 08(H) Auto mode = 10(H)
Fan speed setting	300001	R/W	Low speed = 04(H) Medium speed = 02(H) High speed = 01(H) Auto fan speed = 07(H)
Louver swing setting	300002	R/W	Position 1 = 01(H) Position 2 = 02(H) Position 3 = 03(H) Position 4 = 04(H) Auto = 0F(H) Stop = 00(H)
Setting temperature	300003	R/W	16~30 degree C (actual*10 format)
Address setting	300004	R	Set by dip-switch, reading only
Reset	300005	W	=0x33 reset error
Week	300006	W	Calibration wired wall pad and set timer function
Hour	300007	W	Calibration wired wall pad and set timer function
Minute	300008	W	Calibration wired wall pad and set timer function
Second	300009	W	Calibration wired wall pad and set timer function
Hours in Timer on	300010	R/W	Timer ON
Minute in Timer on	300011	R/W	Timer ON
Hours in Timer off	300012	R/W	Timer OFF
Minute in Timer off	300013	R/W	Timer OFF
Icon of Timer ON or OFF	300014	R/W	BIT0 = Icon of Timer ON BIT1 = Icon of Timer OFF 1 = enable 0 = disable
Minimum valve opening position	300015	R/W	Default 25% (2.5 VDC)
Super low speed rpm	310000	R/W	200~1500
Low speed rpm	310001	R/W	200~1500
Medium speed rpm	310002	R/W	200~1500
High speed rpm	310003	R/W	200~1500
RPM setting	310004	R/W	0~2000 (used to test, 0 = disable)
Temperature sampling time	310005	R/W	2~100, default:5S
Factor of auto fan speed	310006	R/W	2~150, default:20
Factor of modulating valve	310007	R/W	2~250, default:150

*** R** = read only, W = write only, R/W = read and write.

Input Register table:

Description	Address	Type*	Remark
Dip switch 1 status	400000	R	
Dip switch 2 status	400001	R	
Room temperature sensor	400002	R	
Ti1 temperature sensor	400003	R	
Ti2 temperature sensor	400004	R	
Error code	400005	R	Bit0 = Room temperature sensor error Bit1 = Ti1 temperature sensor error Bit2 = Ti2 temperature sensor error Bit3 = Float switch error Bit4 = Indoor coil low temperature protection Bit5 = Indoor coil over heat protection Bit6 = Reserved Bit7 = Electrical Heater failure Bit8 = Motor1 Error Bit9 = Motor2 Error Bit10 = System parameters error Bit11 = Anti-frozen error Bit12 = Reserved Bit13 = Reserved Bit14 = Reserved Bit15 = Reserved
Fan speed status	400006	R	Low = 04(H) Medium = 02(H) High = 01(H)
Mode status	400007	R	Cooling mode = 01(H) Dehumidify mode = 02(H) Fan mode = 04(H) Heating = 08(H)
Setting temperature status	400008	R	Testing only
Room temperature in wall pad status	400009	R	
Room temperature in main PCB status	400010	R	
Unit type	400011	R	4-pipe = 03, 2-pipe = 02 This setting is configured by dip switch
EC motor 1# RPM	400012	R	
EC motor 2# RPM	400013	R	
DA2 signal	400014	R	
DA3 signal	400015	R	

*** R** = read only, W = write only, R/W = read and write.

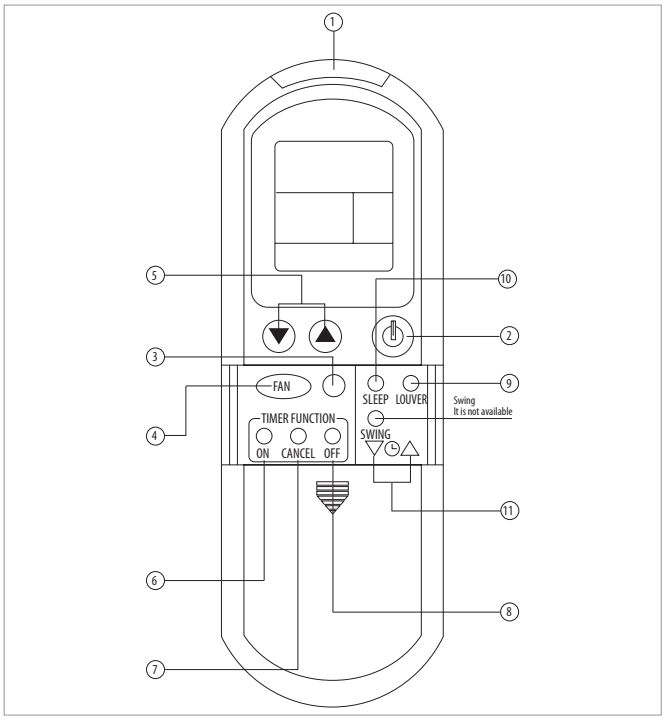
Remark:
The above protocol address is in Base 0.

6. Remote control and wall pad

6.1 Remote control

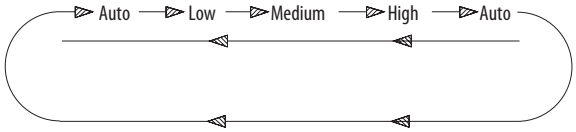
- Be sure that there are no obstructions between receiver and remote controller.
- The remote control signal can be received at the distance of up to about 6,4 mt.
- Don't drop or throw the remote controller.
- Don't put any liquid in the remote controller and don't put it directly under the sunlight or any place where is very hot.
- Remove batteries when the remote controller is not in use for a long time.
- The remote controller should be place 3Ft. or more away from TV. or any other electric appliances.

6.1.1 Buttons and functions



1. TRANSMISSION SOURCE
   Infra red transmission source.

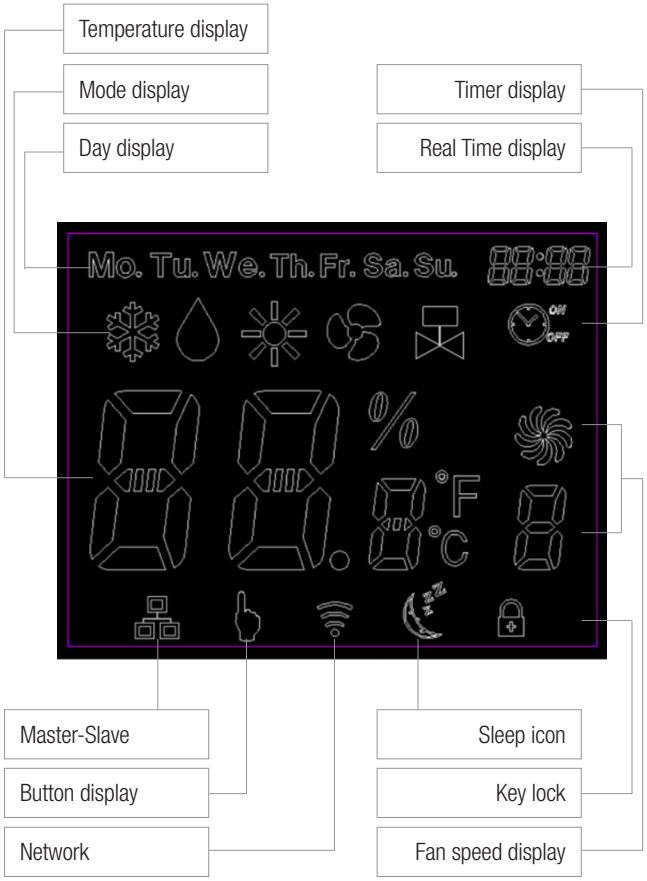
2. POWER BUTTON
   Press to turn the air conditioner from OFF to ON or vice versa.
3. MODE BUTTON
   To select desired operation mode. It will switch from one to another as shown.
   COOL - Cooling Operation
   DRY - Humidity control
   FAN - Fan only. No cooling capability
   HEAT - Heating operation
   AUTO - Operation Mode will be selected automatically between HEAT and COOL mode, depends on the room temperature and SET the temperature.
4. FAN BUTTON
   To select desired Fan speed. It will switch from one to another as shown.



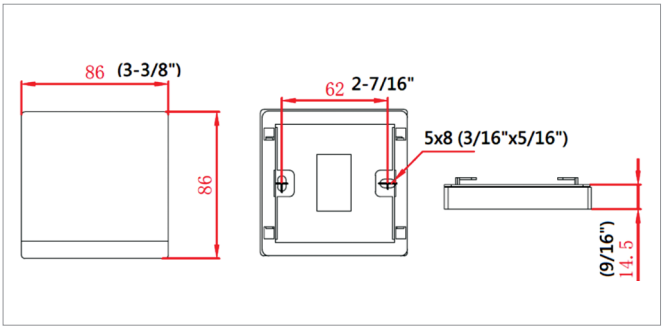
Fan speed sequence

5. TEMPERATURE SETTING BUTTONS
   - Press to increase set temperature.
   - Press to decrease set temperature.
   - Temperature can not be set in FAN mode
   - User dry mode, fan speed will be inhibited and will not be displayed.
6. On Timer
   First press show 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.
7. Cancel Timer
   Press this button to cancel all timer setting.
8. 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.
9. Louver
   Press this button to change louver angle to a fixed position 1,2,3,4, auto sweep or stop.
10. Sleep
    Press to activate the energy saving Sleep function which automatically adjusts the temperature to provide a more comfortable sleep, ie for use in bedrooms.
11. Clock
    Press down or up button for 2 seconds to activate. The current clock setting will decrease or increase at 1 minute intervals on each press.
    The speed of interval updating increases after 4 seconds of continuous key press. It will update at high speed after 6 seconds of continuous key press.

6.2 Wired wall pad controller operation guide



6.2.1 Dimensions



6.2.2 Buttons function

Button	Name	Function
	ON/OFF	Switch on or off the unit
M	MODE	Switch between modes
	FAN	Change Fan Speed
	SET	Switch interfaces
	DOWN	Modify parameters
	UP	Modify parameters

Press SET to change function setting: (CNT stands for pressing times)
(1) CNT=0: No function
(2) CNT=1: Real time setting
(3) CNT=2: Timer On/Off setting
(4) CNT=3: Sleep, swing and sensor settings
(5) CNT=4: Network control (Single control) mode setting
(6) CNT=5: Global control
(7) CNT=6: Parameters checking

a) Real time setting

":" blinks for every second when real time is shown. Press SET once to enter Real Time setting interface. When ":" is on, then press UP or DOWN to adjust the current time. Press M to adjust date. Press FAN to adjust hour or minute.
Press ON/OFF to confirm settings and exit. If no operation within 6 seconds, it will automatically exit and the setting will not be saved.

b) Time On/Off setting

If the master unit is in global control mode and the ON/OFF timer setting is selected, the master unit will command the whole network to be ON or OFF. Otherwise, the ON/OFF timer affects the local unit only. The system supports ON/OFF timer settings for each day of the week.

Press SET twice to enter Timer setting interface and timer icon is on. When "ON" blinks, press M to set timer date (from Monday to Sunday). Press FAN to set hour and minute of timer-on or timer-off alternately. "ON" blinks when timer is set to on and "OFF" blinks when timer is set to off. Press UP or DOWN to set timer on/off time.
Press ON/OFF to confirm settings and exit. If no operation within 6 seconds, it will automatically exit and the setting will not be saved. Timer on/off icon is on when timer on/off is set on that day.

c) Swing, Sleep and Sensor setting

Press SET three times to enter Swing or Sleep setting interface and key lock icon blinks.
a) Press M to turn the sleep function on or off. Sleep icon is on or off when sleep function is turned on or off.
b) Press DOWN to turn on or off the swing function. is on when swing function is on.
c) Press UP to set "∩" in fan speed display area to activate the wall pad sensor or set "F" in fan speed display area to isolate the wall pad sensor.
Press ON/OFF to confirm settings and exit. If no operation within 6 seconds, it will automatically exit but will not save settings.

d) Temperature setting

Press UP or DOWN to set temperature. Set point temperature is shown on temperature display area.
Press ON/OFF to confirm settings and exit. If no operation within 6 seconds, it will automatically exit and the setting will not be saved.
When DIP SW1=ON, set point temperature is fixed. In cooling mode, set point temperature is 24 °C. In heating mode, set point temperature is 21 °C.
When DIP SW1=OFF, temperature can be set from 16 °C to 30 °C.
When DIP SW2=ON, set point temperature is shown on temperature display area.
When DIP SW2=OFF, room temperature is shown on temperature display area.

e) Mode setting

Press M to set COOL, HEAT, FAN or DRY mode alternatively.

f) Key Lock

Press M and FAN to set key lock function. Key lock icon is on or off when key lock function is set to on or off.

g) Fan speed setting

Press FAN to set LOW, MEDIUM, HIGH or AUTO speed.

h) ON/OFF setting

Press ON/OFF to turn on or off the unit.

i) Temperature unit setting

Press ∧ and ∨ at the same time to change temperature unit between Celsius and Fahrenheit.

j) Network control (Only master unit can control slave units)

Press ⚙ four times to set network control and "Network" icon is on. The slave unit number is blinking in real time display area.

Press ∧ or ∨ to select slave unit which is online. The offline slave unit number is not shown.

Press M to select parameters: ON/OFF unit, temperature, mode, fan speed, swing and sleep.

Press ✣ to set the selected parameter.

1) ON/OFF unit: Press M button once, "H" blinks in master-slave display area, then press ✣ to turn on unit ("H" blinks) or turn OFF unit ("S" blinks).
2) Temperature: Press M twice, temperature blinks in temperature display area, then press ∧ or ∨ to set temperature.
3) Mode: Press M three times, Mode icon blinks in mode display area, then press ✣ to select mode.
4) FAN SPEED: Press M four times, fan speed icon blinks in fan speed display area, then press ✣ to set fan speed.
5) Sleep: Press M five times, sleep icon blinks then press ✣ to set sleep mode.

Press ⏻ to confirm settings and exit. If no operation within 6 seconds, it will automatically exit and the setting will not be saved.

k) Global control setting

Press ⚙ five times to set global control and "NETWORK" icon blinks.

1) Press M, timer on/off icon blinks and all slave units' timer on/off function setting are cancelled.
2) Press ✣, all slave units time are set to the same as master units.

Press ⏻, master unit sends commands to all online slave units. "NETWORK" icon is off. If timer on/off function is set on mater unit, "NETWORK" icon blinks until Timer on/off disappears.

l) Parameter checking

Press ⚙ six times to enter parameter checking interface. Local unit parameter is shown in temperature display area. Unit number is shown in real time hour area and parameter number is shown in real time minute area. For example, 2:03 stands for No.2 unit and No.3 parameter. Press M and ✣ to select the specific parameter. Press ∧ and ∨ to select unit number.

Press ⏻ to exit parameter checking interface.

Parameters shown below:

Temp. area	Time area
C0	Return air temperature
C1	Indoor coil 1 temperature
C2	DIP switch setting
C3	Indoor coil 2 temperature

m) Error codes

When unit error is detected, unit number blinks on real time hour area and Error code blinks on real time minute area. The Error codes display alternately if more than one error is detected.

If there is no slave unit online, only error code is shown in real time minute area.

Error code table:

Error reason	Error code
Indoor coil sensor 2 faulty	E2
Return air sensor faulty	E3
Indoor coil sensor 1 faulty	E4
Indoor coil low temperature protection	E5
Indoor coil over heat protection	E6
Water pump faulty	E7
Local communication error	ECO

n) EC motor RPM setting (Not available in AC motor unit)
DIP SW3 is used to set EC motor RPM.

When DIP SW3=ON, wired wall pad enters setting interface. D1/D2/D3 is shown in temperature display area and EC motor RPM is shown in real time display area.

Press M and ✣ to select motor speed (D1, D2 or D3). Press ∧ or ∨ to set EC motor RPM. After 3 seconds, the setting is valid.

When DIP SW3=OFF, wired wall pad resumes normal display.

6.3 Control Logic For 2-Pipe System with valve configuration

Abbreviations

Ts	=	Setting temperature
Tr	=	Room air temperature
Ti1	=	Chilled water coil temperature
Ti2	=	Hot water coil temperature
AUX1	=	Hot water free contact
AUX2	=	Chilled water free contact
MTV1	=	Chilled water valve
MTV2	=	Hot water valve

6.4 Control Logics For 2-Pipe System

COOL MODE

a) MTV2, AUX1 and electric Heater are always off.
b) If Tr ≥ Ts + 1ºC (or + 4ºC if economy contact is activated), then cool operation is activated and MTV1 and AUX2 are turned on. Indoor fan runs at set speed.
c) If Tr < Ts, then cool operation is terminated and MTV1 and AUX2 are turned off. Indoor fan runs at set speed.
d) The range of Ts is 16 - 30ºC
e) Indoor fan speed can be adjusted to low, medium, high and auto.
f) When turned on, MTV1 requires 30 seconds before it is fully open.
g) When turned off, MTV1 requires 120 seconds before it is fully closed.
h) When the unit is turned off, the indoor fan will shut down after 5 seconds.

LOW TEMPERATURE PROTECTION OF INDOOR COIL

a) If Ti1 ≤ 2 ºC for 2 minutes, then MTV1 and AUX2 are turned off. If indoor fan is set for low speed, then it will run at medium speed. If it is set at medium or high speed, then it will keep running at the same speed.
b) If Ti1 ≥ 5ºC for 2 minutes, then MTV1 and AUX2 are turned on. Indoor fan runs at set speed.

FAN MODE

a) Indoor fan runs at the set speed while Heater, MTV1, MTV2, AUX1 and AUX2 are turned off.
b) Indoor fan speed can be adjusted to low, medium and high.

HEAT MODE

Without Electrical Heater

a) MTV2, AUX2 and electric Heater are always off.
b) If Tr ≤ Ts - 1 ºC (or - 4ºC if economy contact is activated), then heat operation is activated and MTV1 and AUX1 are turned on. Indoor fan runs at the set speed.
c) If Tr > Ts, then heat operation is terminated and MTV1 and AUX1 are turned off. Indoor fan runs at Modbus 310000 setting.
d) The range of Ts is 16 - 30ºC.
e) Indoor fan speed can be adjusted to low, medium, high and auto.
f) When turned on, MTV1 requires 30 seconds before it is fully open.
g) When turned off, MTV1 requires 120 seconds before it is fully closed.

With Electrical Heater as Booster

a) MTV2 and AUX2 are always off.
b) If Tr ≤ Ts - 1ºC (or - 4ºC if economy contact is activated), then heat operation is activated and MTV1 and AUX1 are turned on. Indoor fan runs at the set speed.
c) If Tr > Ts, then heat operation is terminated and MTV1 and AUX1 are turned off. Indoor fan runs at Modbus 310000 setting.

d) If Ti1 < 40ºC, then the electrical Heater is turned on. If 40ºC ≤ Ti1 < 45ºC, then the electrical Heater maintains its original state. If Ti1 ≥ 45ºC, then the electrical Heater is turned off.
e) The range of Ts is 16 - 30ºC
f) Indoor fan speed can be adjusted to low, medium, high and auto.
g) When turned on, MTV1 requires 30 seconds before it is fully open.
h) When turned off, MTV1 requires 120 seconds before it is fully closed.

With Electrical Heater as Primary Heat Source
a) MTV1, MTV2, and AUX2 are always off.
b) If Ti2 ≤ 30ºC (or Ti2 is damaged or not connected)
i. If Tr ≤ Ts-1ºC (or – 4ºC if economy contact is activated), then heat operation is activated and the electrical Heater and AUX1 are turned on. Indoor fan runs at set speed.
ii. If Tr > Ts, then heat operation is terminated and the electrical Heater and AUX1 are turned off. Indoor fan runs at Modbus 310000 setting.

c) If Ti2 > 30ºC, MTV2 and AUX2 are off.
i. If Tr ≤ Ts-1ºC (or – 4ºC if economy contact is activated), then heat operation is activated and the electrical Heater is turned off while MTV1 and AUX1 are turned on. Indoor fan runs at set speed.
ii. If Tr > Ts, then heat operation is terminated and MTV1 and AUX1 are turned off. Indoor fan runs at Modbus 310000 setting.
d) The range of Ts is 16 - 30ºC.
e) Indoor fan speed can be adjusted to low, medium, high and auto.

PRE-HEAT
Without Electrical Heater
a) If Ti1 < 36ºC [or < 28ºC is selected by DIPB-S2 position SW4], then MTV1 and AUX1 are turned on, indoor fan runs at Modbus 310000 setting.
b) If Ti1 ≥ 38ºC [or ≥ 30ºC is selected by DIPB-S2 position SW4], then MTV1 and AUX1 are turned on, indoor fan runs at set speed.
c) If the indoor coil temperature sensor is damaged, then the pre-heat time is set for 2 minutes. Indoor fan runs at set speed.

With Electrical Heater
a) If the indoor fan speed ≥ 300rpm, then the electrical Heater will turn on.

POST-HEAT
Without Electrical Heater
a) If Ti1 ≥ 38ºC, then MTV1 and AUX 1 are off, then indoor fan continues to run at set speed.
b) If 36ºC ≤ Ti1 ≤ 38ºC, then MTV1 and AUX1 are turned off. Then indoor fan maintains its original state.
c) If Ti1 < 36ºC, then MTV1 and AUX1 are turned off. Then indoor fan runs at 200rpm for 30 seconds, then shuts off.
d) If the indoor coil temperature sensor is damaged, then the post-heat time is set for 3 minutes. Indoor fan runs at set speed.

With Electrical Heater
a) Indoor fan will be turned OFF after the unit has been turned off for 20 seconds.

OVER-HEAT PROTECTION OF INDOOR COIL
a) If Ti1 ≥ 75ºC, then MTV1 and AUX1 are turned off. Indoor fan remains on and runs at high speed.
b) If Ti1 < 70ºC, then MTV1 and AUX1 are turned on. Indoor fan remains on and runs at set speed.
c) If the indoor coil temperature sensor is damaged, then the protection mode will be overridden and the unit will work according to the pre-heat and post-heat program.

DEHUMIDIFICATION MODE
a) MTV2, AUX1 and Heater are always off.
b) If Tr ≥ 25ºC, then MTV1 and AUX2 will be ON for 3 minutes, and then OFF for 4 minutes.
c) If 16ºC ≤ Tr < 25ºC, then MTV1 and AUX2 will be ON for 3 minutes, and then OFF for 6 minutes.
d) If Tr < 16ºC, then MTV1 and AUX2 will be turned off for 4 minutes.
e) At the end of the above dehumidification cycle, the system will decide the next dehumidification control option. Indoor fan will run at low speed throughout the dehumidification process.

AUTOMODE
Without Electric Heater and With Electric Heater as Booster
a) Every time the unit is turned on, MTV1 is on while AUX1, AUX2 and fan are off. MTV2 and the Heater are always off. After 120 seconds, the subsequent operation mode is decided according to the following:
i. If the coil temperature sensor (Ti1) ≥ 36°C, then MTV1, AUX1 and fan turn on or off according to HEAT mode.
ii. If Ti1 < 36°C, then MTV1, AUX2 and fan turn on or off according to COOL mode.
b) Unit remains in AUTO COOL or AUTO HEAT mode throughout the operating cycle until the user changes the mode manually or restarts the unit.
c) Should the Ti1 sensor fail or be damaged, auto mode will not function.

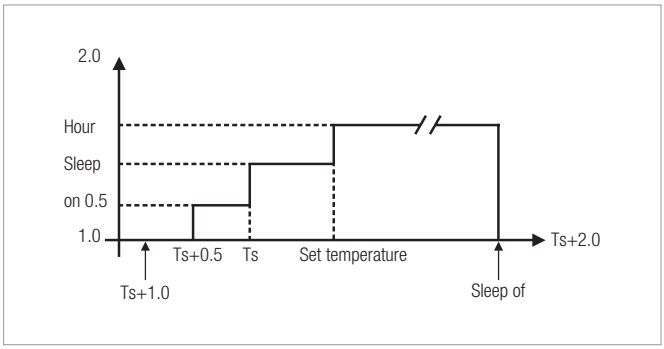
With Electric Heater as Primary Heat Source
a) If the current running mode is AUTO COOL mode, it will change over to AUTO HEAT mode upon satisfying all the conditions below:
i. Ts - Tr ≥ 1°C (or – 4ºC if economy contact is activated).
ii. MTV1 has stopped ≥ 10 minutes.
b) If the current running mode is AUTO HEAT mode, it will change over to AUTO COOL mode upon satisfying all the conditions below:
i. Tr - Ts ≥ 1°C (or + 4ºC if economy contact is activated).
ii. MTV1 has stopped ≥ 10 minutes.

⚠ AUTO COOL or AUTO HEAT operations are the same as COOL or HEAT mode respectively.

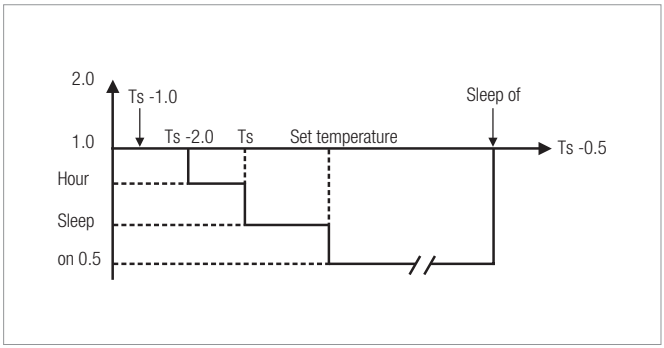
6.5 Sleep Mode

a) SLEEP mode can only be set when the unit is in COOL or HEAT mode.
b) In COOL mode, after SLEEP mode is set, the indoor fan will run at low speed and Ts will increase by 2 ºC over 2 hours.
c) In HEAT mode, after SLEEP mode is set, the indoor fan will run at set speed and Ts will decrease by 2 ºC over 2 hours.
d) Changing of operation mode will cancel SLEEP mode.

The cool mode sleep profile is:



The heat mode sleep profile is:



6.6 Auto Fan Speed

a) In COOL mode, the fan speed cannot change until it has run for more than 30 seconds.
b) In HEAT mode, the fan speed cannot change until it has run for more than 30 seconds.

After 30 seconds the fan speed is modulated according to the difference between the room temperature and the set temperature. The controller adjusts the motor signal input from 0 to 5 VDC by PID calculation every 10 seconds. The air flow is adjusted from 15% to100%.

6.7 Louver

For remote handset
Whenever the indoor fan is running, the louver can swing or stop at the desired position.
Louver angle: 0~100º, opens clockwise with widest angle at 100º.
Swing angle: 35~100º, opens clockwise to 68º. Below are the 4 fixed positions which can be set from wireless LCD handset.

Position	Angle
1	35º
2	57º
3	83º
4	100º

For wired wall pad
Louver angle: 0~100º, opens clockwise, with widest angle at 100º.
Swing angle: 35~100º, opens clockwise to 68º. User may stop louver at any desired position between 35~100º.

6.8 Buzzer

If a command from remote handset is received by the fan coil unit, the fan coil unit will respond with beep sound. If a command is received by the fan coil units in master-slave connection, the master unit will respond with 2 beeps for each setting, while the slave unit will respond with 1 beep.

6.9 Auto Restart

The system uses non-volatile memory to save the present operation parameters when system is turned off or in case of system failure or cessation of power supply. When power supply resumes or the system is switched on again, the same operations as previously set will function.
Operation parameters
- When using a handset, parameters are Mode, Set Temperature, Swing, and Fan Speed
- When using a wall pad, parameters are Mode, Set Temperature, Swing, and Fan Speed, as well as the 7-day ON/OFF Timer program.

6.10 On/Off Switch

- This is a tact switch to select COOL ➞ HEAT ➞ OFF operation mode.
- In COOL mode, the set temperature of the system is 24ºC with auto fan speed. There are no timer and SLEEP modes.
- In HEAT mode, the set temperature of the system is 24ºC with auto fan speed. There are no timer and SLEEP modes.
- Master unit that does not use a LCD wall pad will globally broadcast.

Note: When button pressing is effective, the master unit buzzer will beep twice and the slave unit will beep once.

6.11 Electric Heater Safety Switch

- Before the electrical Heater is turned on, the EH safety switch must be closed and EC motor RPM must be more than 500RPM.
- When electrical Heater is ON, electrical Heater safety switch is opened for ≥ 1 second or EC motor RPM is lower than Modbus 310000 setting, EH will be turned off immediately and report an error and fan speed is changed to high speed.
- Once the contact is returned to the closed ≥ 180 seconds, reset the error and the Heater will start again.
- When the EH safety switch is opened ≥ 3 times within 60 minutes the Heater is not allowed to start anymore.
- Turn off the unit to reset the fault, provided that the switch has returned to the closed position.

6.12 Low Temperature Protection of Indoor Coil in Winter

This is frost protection for when the unit is off to prevent water in the coil and room from freezing.

If Unit with SW2=0 (2-pipe system), is in Standby Mode
If Tr ≤ 2 ºC for 2 minutes
1. MTV1 is turned ON,
2. AUX1 is closed,
3. If Ti1 < 5ºC for 2 minutes EH (if present) is switched on
4. Indoor fan is turned on at low speed.

If Tr ≥ 5ºC for 2 minutes
1. MTV1 is turned OFF,
2. AUX1 is open,
3. Electric Heater is turned Off
4. Indoor fan Switched OFF.

If Unit with SW2=1(4-pipe system), is in Standby Mode

If Tr ≤ 2 ºC for 2 minutes
1. MTV2 is turned ON,
2. AUX1 is closed,
3. If Ti2 < 5ºC for 2 minutes EH (if present) is switched on
4. Indoor fan is turned on at low speed.

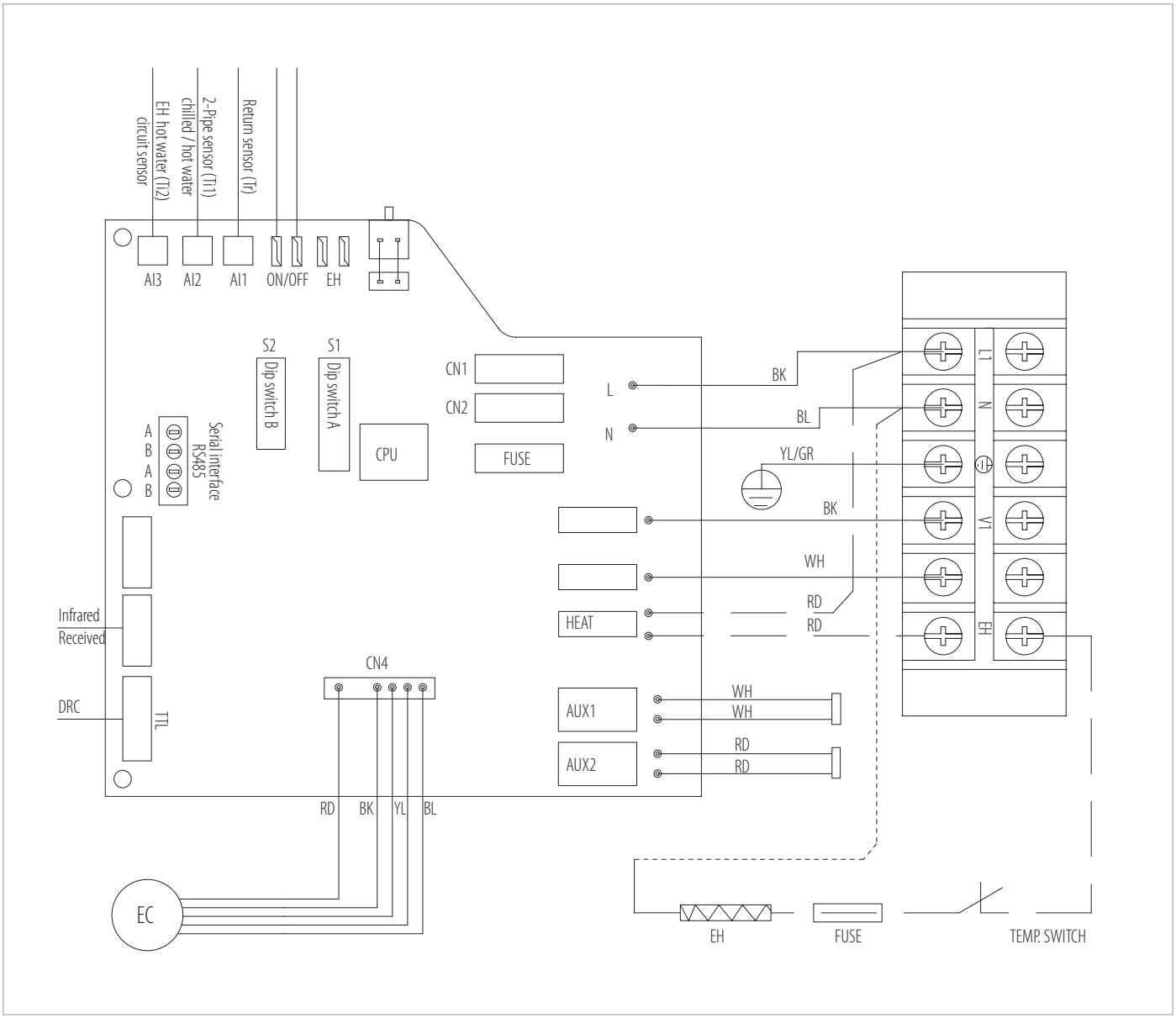
If Tr ≥ 5ºC for 2 minutes
1. MTV2 is OFF,
2. AUX1 is open,
3. Electric Heater is turned Off
4. Indoor fan Switched OFF.

7. Electrical diagram

7.1 Wiring diagrams

NOTES:

1: Wiring dotted to be fitted by installer
2: The unit shall be installed according to national wiring regulation.



AUX1	Voltage Free contact ON = heating mode
AUX2	Voltage Free contact ON = cooling mode
DRC	Automatic electronic control panel (optional)
EC	EC fan
EH	Electrical Heater
L	Phase
L1	1 Phase

N	Neutral
ON/OFF	Window/economy contact
S1	Dip switch A
S2	Dip switch B
V1	Cooling valve
⏚	Earthing

8. Maintenance

8.1 Care and Maintenance

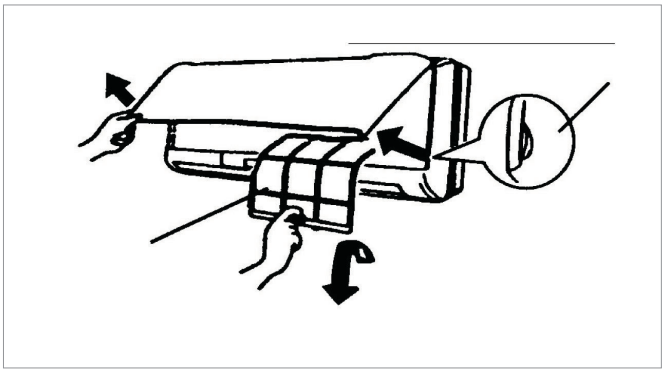
CAUTION:

- Turn off the power and pull the power plug before cleaning the air conditioner,
- Don't sprinkle water on the fan coil unit for cleaning.
- Wipe the unit with a dry soft cloth, or a slightly moistened with water or cleaner.

CLEANING THE AIR FILTERS

(Recomended once every three weeks):

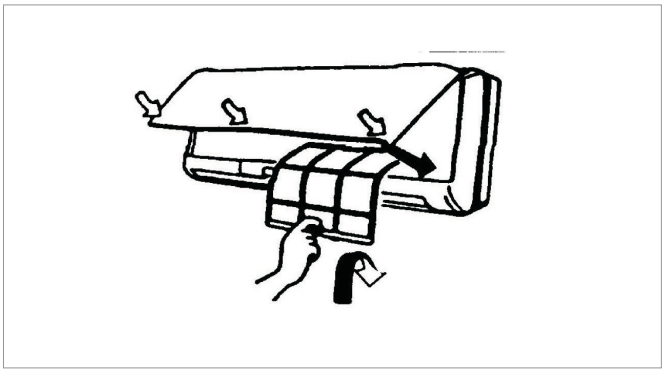
1. Open the deco panel by grasping at the side rounded groove and pulling it towards you.



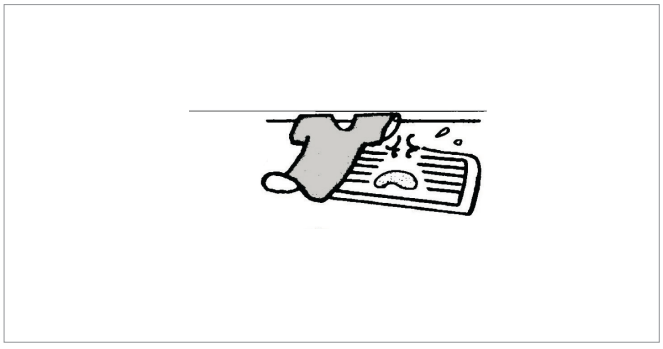
2. Hold the tabs of air filter and raise it slightly,and then take it out.
3. To clean the dust adhering the air filters, you can use either vacuum cleaner or wash them with water and dry it in the shade.

NOTE:

Never use water above 45°C it could cause deformation or discoloration.



4. Reinsert the air filters with side marked "FRONT" facing forward you.



PREPARATION BEFORE USE:

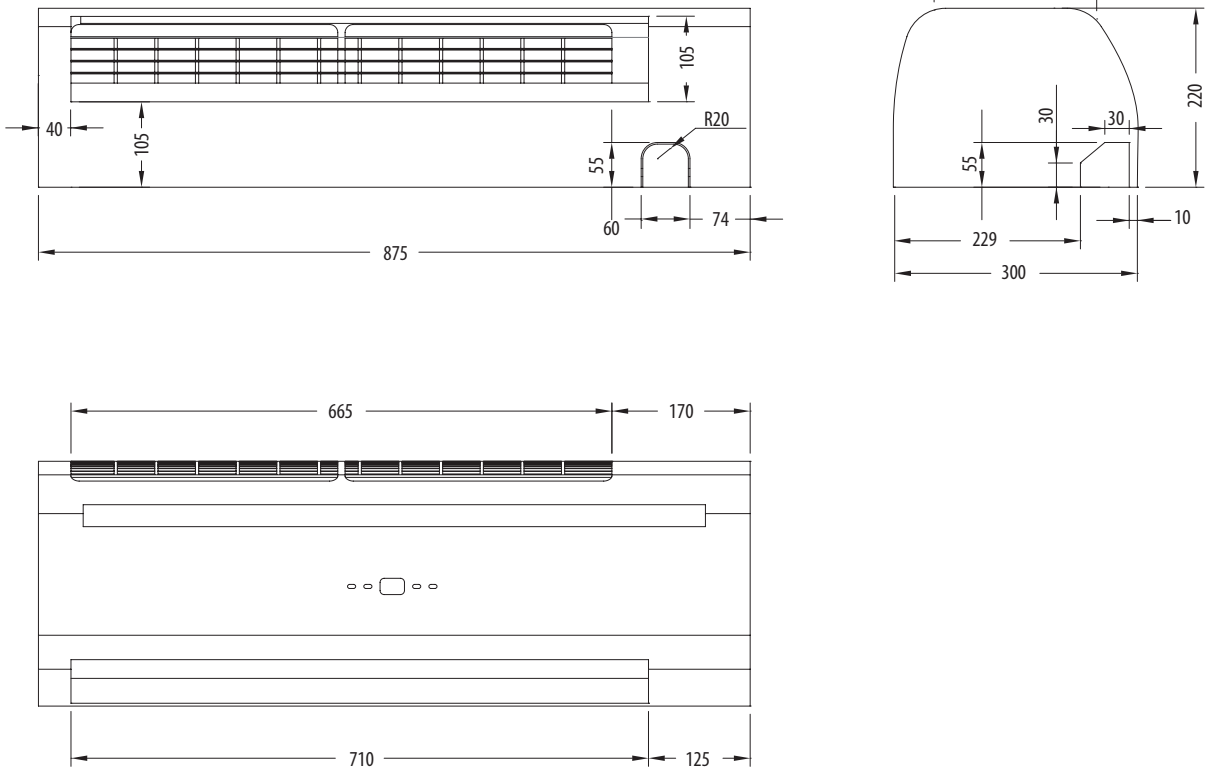
1. Be sure that no obstruction in the air outlet and intake vents.
2. Cheked that whether ground wire is properly connected or not.
3. Replace filters If necessary.

MAINTENANCE AFTER USE:

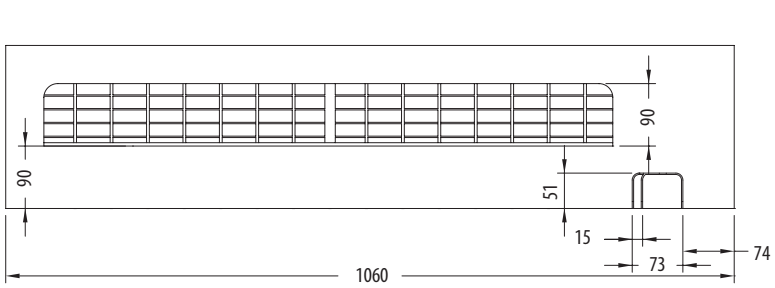
1. Clean filters and other parts.
2. Turn off the main If not In use.

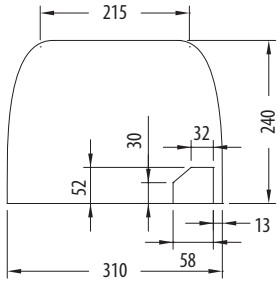
9. Dimensions

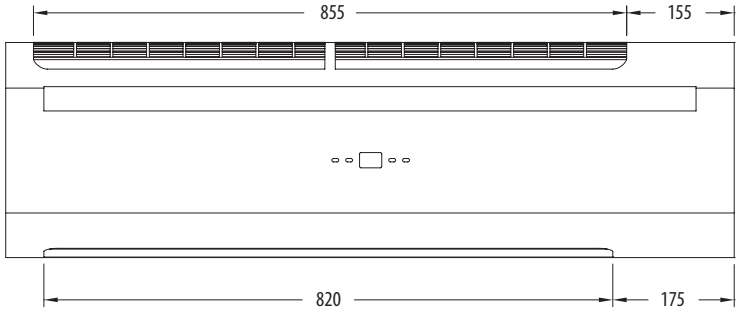
9.1 Mod. 22 ÷ 42



9.2 Mod. 52 ÷ 62



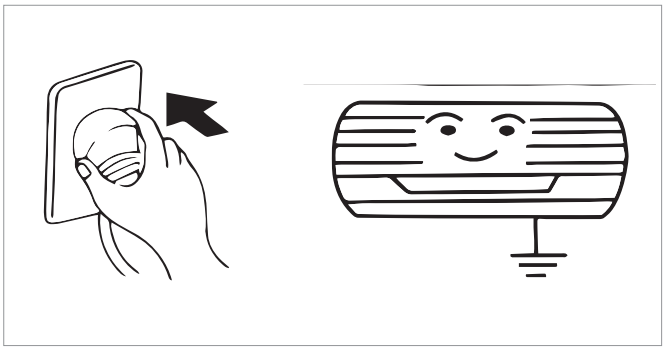




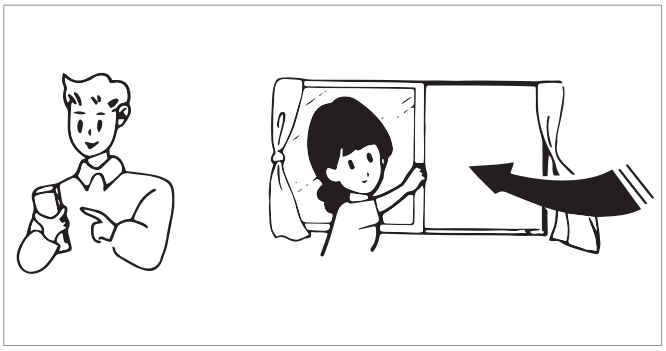
10. Warnings

10.1 User Notices

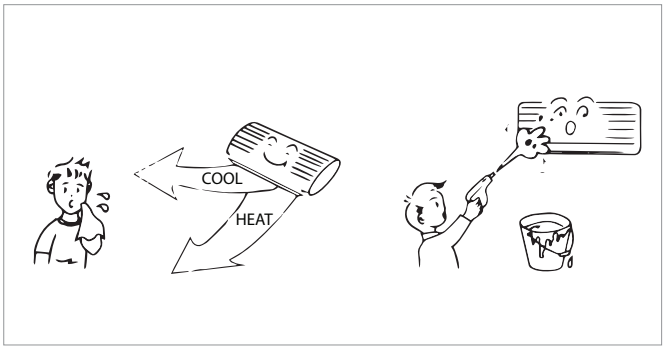
The ground must be connected. Don't connect the earth wire to water or gas pipes, lightining rods and telephone earth lines.
Air conditioner should be operated with the voltage in range of 195-250V lph. Otherwise, reversing valve and controller will damage.



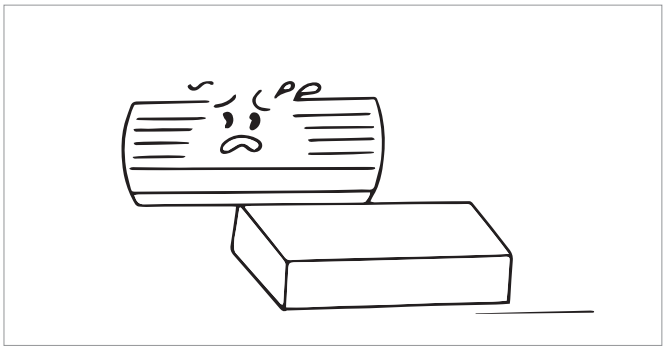
Don't leave windows and doors open while operating air conditioner for a long time.
Select the most appropriate temperature. Keep the room cooler than outside about 5 °C in cooling mode.

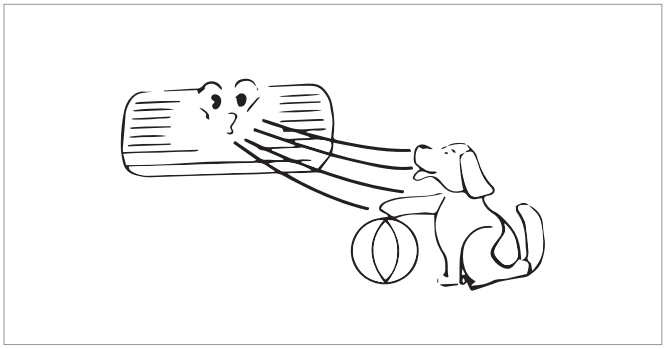


Splashing water on the air conditioner can cause an electri.
The air direction can be adjusted appropriately. The louver adjusted downward at heating operation and upward at cooling operation.



Don't use the air conditioner for other purposes such as drying cloths, preserving foods, etc.c shock and malfunction.
Don't blow the wind to plant and animals directly. It can cause bad imfluence to them.





10.2 The following are normal condition

UNIT DOES NOT OPERATE IMMEDIATELY?
If you restart the air conditioner within 3 minutes after turning it off, or changing the mode during operation. A protective device will work to shut down off the unit for 3 minutes.

UNUSUAL SMELL COMING FROM THE UNIT?
Odors present in the room, such as those from the carpet or furniture, may emitted from the unit.

HISSING SOUND HEAR DURING OPERATION?
A soft, swishing noise can be heard during operation or immediately after the unit is turned off. This is the sound of circulating refrigeranted water.

MIST IS EMMITTED DURING COOLING OPERATION?
Because the air in the room is cooled rapidly by the cold wind and It looks like fog.

10.3 Before calling for service

If the unit appears to be malfunctioning, check the following points before calling for service. FOR THE UNIT:

AIR CONDITIONER DOESN'T OPERATE AT ALL
- Has the power been shut down?
- Is the wiring loose?

- Is the leakage protection is operation?
- Is voltage higher than 250V or lower than 195V?
- Is the TIMER ON in operation?

COOLING (HEATING) EFFICIETCY IS NOT GOOD
- Is set temp. suitable?
- Is air inlet or outlet obstructed?
- Are air filters dirty?
- Is Indoor fan speed set at low speed?
- Is there any other heat source in your room?
- Is there arge number of people Inside the room?

WIRELESS REMOTE CONTROLLER IS NOT FUNCTIONING
- Is the remote control unit out of effective distance to the fan coil unit?
- Replace the worn out batteries of remote controller?
  Are there any obstructions between the wireless remote controller and the signal receptor?

10.4 Need qualified personel assistance

If the unit not functioning and all LED lamp indicators are blinking.
CAUSED: Any of the Temperature sensors was OPEN or SHORT.

10.5 Commissioning and maintenance

Installation, commissioning and maintenance of these machines must be performed by qualified personnel with a good knowledge of local standards and regulations.

Various wiring performed at the worksite must comply with local electrical standards.

Ensure the that the identification tag of the unit matches the available electrical power supply before wiring in accordance with the provided electrical diagram.

The unit must be CONNECTED TO GROUND to avoid risks arising from defective insulation.

It is prohibited to undertake any work on electrical components without first disconnecting the machine from the electrical power supply.

It is prohibited to undertake any work on electrical components in the presence of water or high humidity in the place of installation.

When connecting the unit, prevent impurities from getting into the pipes and water circuits.

The unit can be moved using lifting systems that are appropriate for the size and weight of the unit.

10.6 Safety symbols

Danger: live current

Ground

Danger: moving parts

Legend

10.7 Transportation

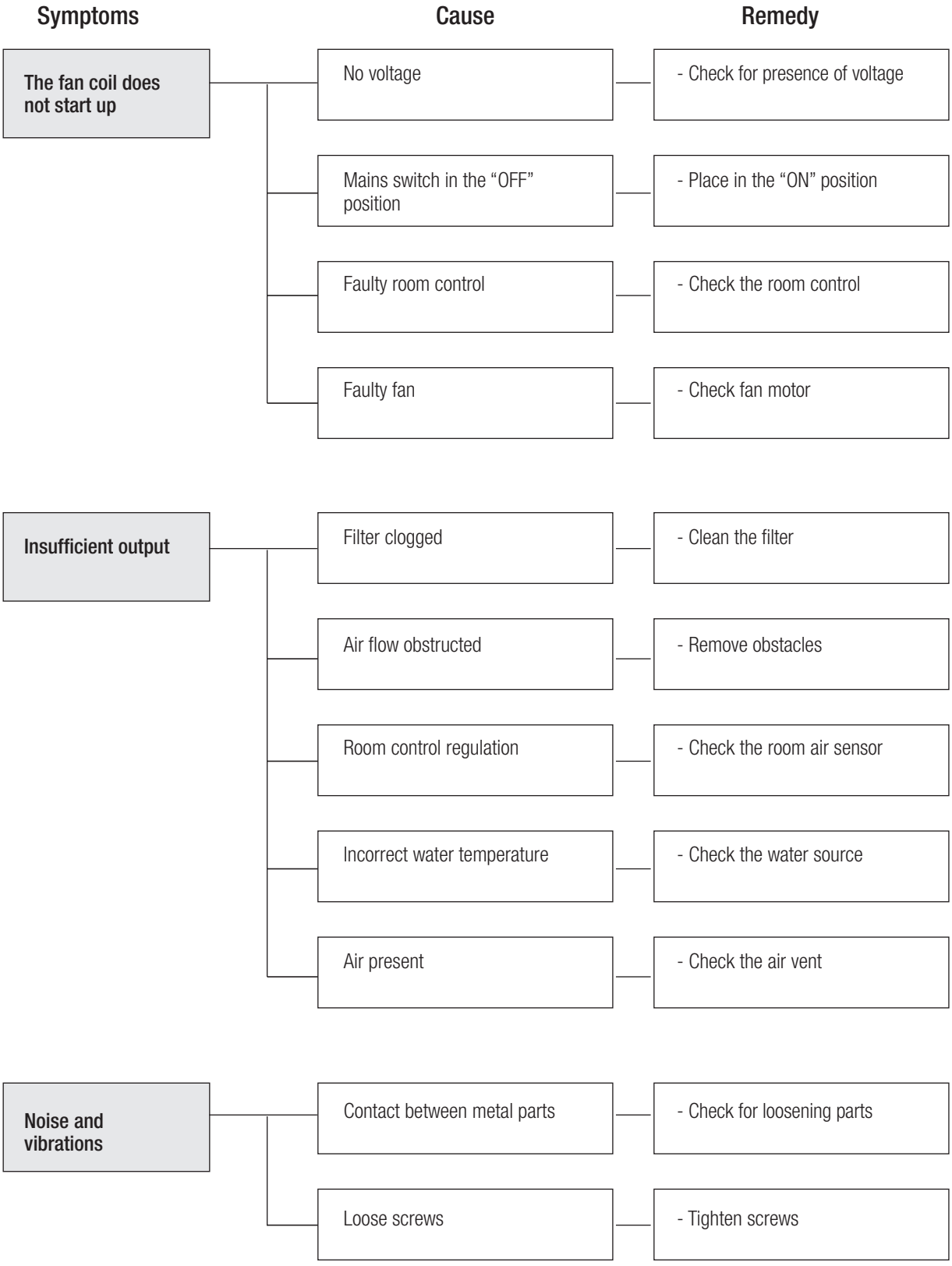
Do not let the packaging get wet.

Do not transport the pac-kage alone if its weight is more than 35 kg.

Don't stand on packages.

Always check on the package for the direction of storage and the number that can be stacked.

10.8 Troubleshooting Guide



Serie	
HWW-EC 22÷62	
Issue	Superseedes
07.20	**12.14**
Catalogue	
CLM 30.1 B	

The data indicated in this manual is purely indicative.
The manufacturer reserves the right to modify the data whenever it is considered necessary.

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