

INSTALLATION MANUAL

FLOOR STANDING TYPE INDOOR UNIT



Exposed models:

YDEFS-022C15B YDEFS-056C15B
YDEFS-028C15B YDEFS-071C15B
YDEFS-036C15B YDEFS-080C15B
YDEFS-045C15B

Concealed models:

YDCFS-022C15B YDCFS-056C15B
YDCFS-028C15B YDCFS-071C15B
YDCFS-036C15B YDCFS-080C15B
YDCFS-045C15B

For correct installation, read this manual before starting installation.

Only trained and qualified service personnel should install, repair or service air conditioning equipment. Users should not install the air conditioner by themselves.

All pictures are only sketches. If there is any difference between pictures in this manual and the actual shape of the air conditioner you purchased, the actual shape shall prevail.

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INSTALLATION PRECAUTION

- To install properly, please read this manual at first.
- The air conditioner must be installed by qualified persons.
- When installing the indoor unit or its tubing, please follow this manual as strictly as possible.
- When all the installation work is finished, please turn on the power only after a thorough check.
- No further announcement if there is any change of this manual caused by product improvement.

Note: The installer should illustrate to users how to correctly use and maintain the air-conditioner, as well as remind users to carefully read and keep both Installation Manual and Owner's Manual well.

INSTALLATION PLACE

■ The Indoor Unit

- There is enough room for installation and maintenance.
- The air outlet and the air inlet are not impeded, and the influence of external air is the least.
- The air flow can reach throughout the room.
- The connecting pipe and drainpipe could be extracted out easily.
- There is no direct radiation from heaters

▲ Cautions

Location in the following places may cause malfunction of the machine. (If unavoidable, please consult your local dealer.)

- a. There exists petrolatum.
- b. There is salty air surrounding(near the coast).
- c. There is caustic gas(the sulfide, for example) existing in the air (near a hot spring).
- d. The Volt vibrates violently(in the factories).
- e. In buses or cabinets.
- f. In kitchen where it is full of oil gas.
- g. There is strong electromagnetic wave existing.
- h. There are inflammable materials or gas.
- i. There is acid or alkaline liquid evaporating.
- j. Other special conditions.

■ Notes Before Installation

1. Select the correct carry-in path.
2. Move this unit as originally packaged as possible.
3. If the air conditioner is installed on a metal part of the building, it must be electrically insulated according to the relevant standards to electrical appliances.


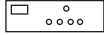

NOTE:

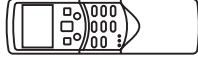


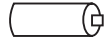
Remark per EMC Directive 89/336/EEC

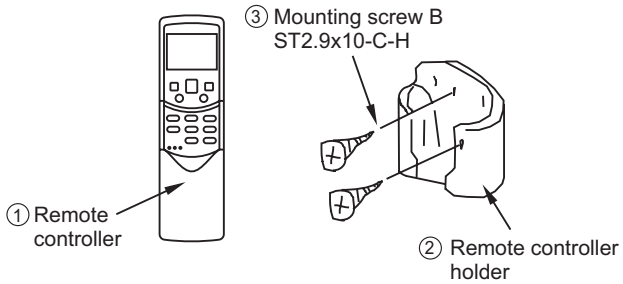
For to prevent flicker impressions during the start of the compressor (technical process), following installation conditions apply.

1. The power connection for the air conditioner has to be done at the main power distribution. The distribution has to be of a low impedance, normally the required impedance reaches at a 32A fusing point.
2. No other equipment has to be connected with this power line.
3. For detailed installation acceptance, please refer to your contract with the power supplier if restrictions do apply for products like washing machines, air conditioners or electrical ovens.
4. For power details of the air conditioner, refer to the rating plate of the product.
5. For any question contact your local dealer.

ACCESSORIES

| Name of Accessories | Q'ty | Outline | Usage |
|-------------------------------|------|---|-----------------|
| Owner's manual | 1 | _____ | _____ |
| Installation manual | 1 | (This manual) | _____ |
| Pipe insulation material | 2 |  | Heat insulation |
| Signal receiver display board | 1 |  | Receive Signal |
| Mounting screw(ST3.9x12-C-H) | 4 |  | _____ |

| Remote controller & Its Frame | |
|---|---|
| 1. Remote controller..... | 1 |
|  | |
| 2. Frame..... | 1 |
|  | |
| 3. Mounting screw (ST2.9x10-C-H)..... | 2 |
|  | |
| 4. Alkaline dry batteries(AM4) | 2 |
|  | |



Cautions on remote controller installation

- Never throw or beat the controller.
 - Before installation, operate the remote controller to determine its location in a reception range.
 - Keep the remote controller at least 1m apart from the nearest TV set or stereo equipment. (It is necessary to prevent image disturbances or noise interferences.)
 - Do not install the remote controller in a place exposed to direct sunlight or close to a heating source, such as a stove.
- Note that the positive and negative poles are in right positions when loading batteries.

Install the main body

- The units may be mounted vertically ,provided that the correct clearances for positioning are maintained.(Refer to Chart 1 -3)

• Version I

Vertical unit with casing,with air intake from front and air outlet on top, for installation on a wall or on feet on the floor.

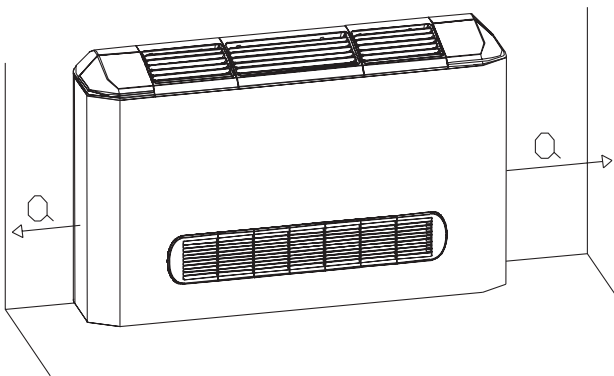


Chart 1

• Version II

Vertical unit with casing,with air intake from below and air outlet on top, for installation on a wall or on feet on the floor..

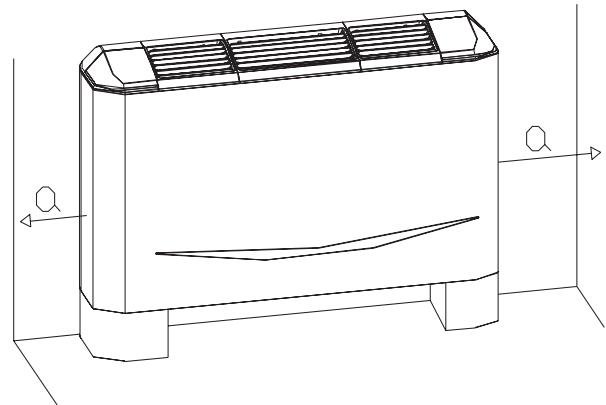


Chart 2

• Version III

Vertical unit for building-in,with air intake from below and air delivery at the top,for installation on a wall.

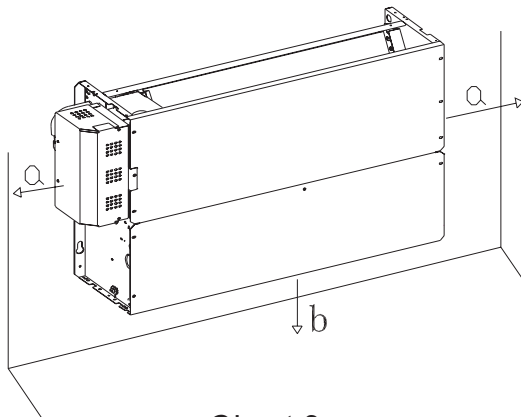


Chart 3

| Version | Version I | Version II | Version III |
|---------|------------|------------|-------------|
| a(mm) | ≥ 150 | ≥ 150 | ≥ 200 |
| b(mm) | — | — | ≥ 80 |

Table 1

Version I Installation

For installation, follow the instructions set out below:

- Remove the external casing, unscrewing the screws which secure it to the structure, as following indicated. (Refer to Chart 4)

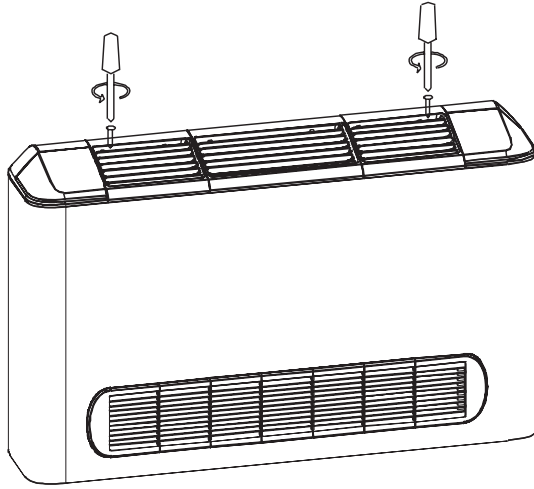


Chart 4

- Mark out the fixing points on the wall, either by marking through the drillings in the unit itself, or by referring to the measurements given in Table 2. Secure the unit by driving the four fixing screws into suitable masonry plugs. (Refer to Chart 5)

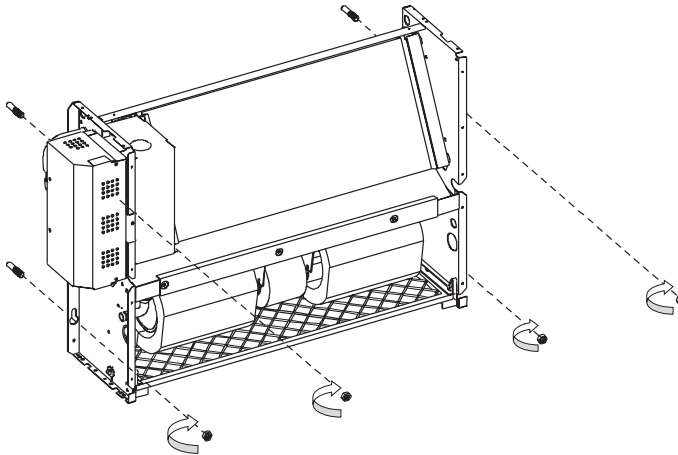


Chart 5

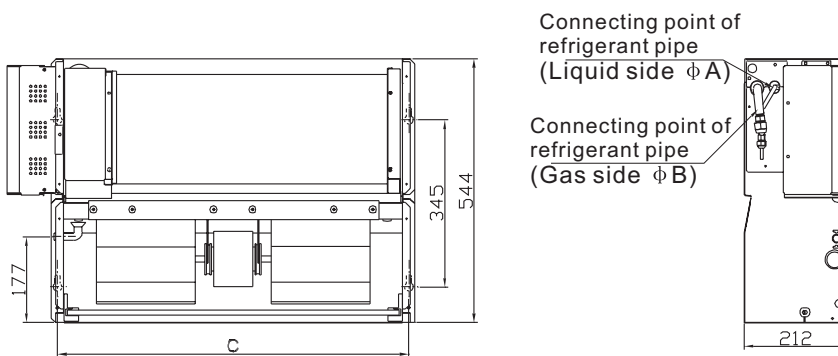


Chart 6

The dimension of the unit

| Capacity(W) | A(mm) | B(mm) | C(mm) |
|-----------------|-------|-------|-------|
| 2200-2800W type | 6.35 | 12.7 | 725 |
| 3600-4500W type | 6.35 | 12.7 | 925 |
| 5600-8000W type | 9.52 | 16 | 1225 |

Table 2

Version II Installation

For installation, follow the instructions set out below:

- Remove the external casing, unscrewing the screws which secure it to the structure. (Refer to Chart 7)

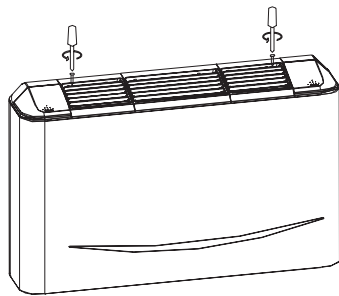


Chart 7

- Put the unit onto the feet, and fix it by screws. (Refer to Chart 8)

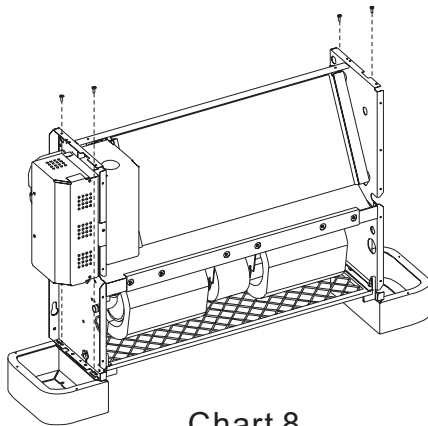


Chart 8

- Mark out the fixing points on the wall, either by marking through the drillings in the unit itself, or by referring to the measurements given in Table 2. Secure the unit by driving the four fixing screws into suitable masonry plugs. (Refer to Chart 9)

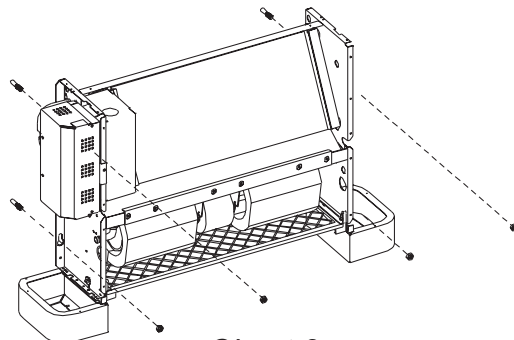


Chart 9

Version III Installation

For installation, follow the instructions set out below:

- Mark out the fixing points on the wall, either by marking through the drillings in the unit itself, or by referring to the measurements given in Table 2. Secure the unit by driving the four fixing screws into suitable masonry plugs. (Refer to Chart 10)

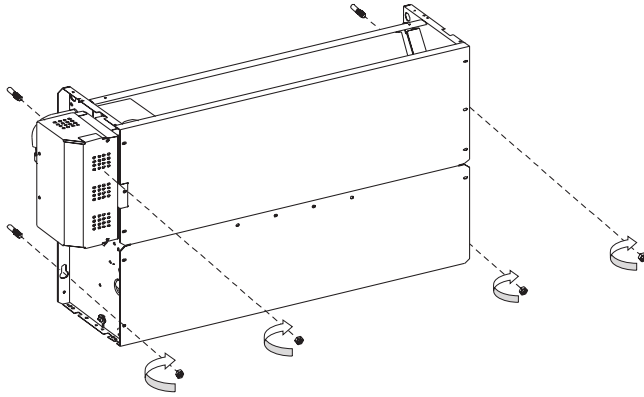


Chart 10

⚠ ATTENTION: The figures above are based on model with 2200-2800W type as rated capacity, which may differ from the unit you purchased.

INSTALL THE CONNECTING PIPE

- Do not let air, dust, or other impurities fall in the pipe system during the time of installation.
- The connecting pipe should not be installed until the indoor and outdoor units have been fixed already.
- Keep the connecting pipe dry, and do not let moisture in during installation.

The Procedure of Connecting Pipes

1. Measure the necessary length of the connecting pipe, and make it by the following way.

1) Connect the indoor unit at first, then the outdoor unit.

- Bend the tubing in proper way. Don't harm them.

⚠ Cautions

- Daub the surfaces of the flare pipe and the joint nuts with frozen oil, and wrench it for 3~4 rounds with hands before fasten the flare nuts. (Refer to chart 12)
 - Be sure to use two wrenches simultaneously when you connect or disconnect the pipes.
- 2) The stop valve of the outdoor unit should be closed absolutely (as original state). Every time you connect it, first loosen the nuts at the part of stop valve, then connect the flare pipe immediately (in 5 minutes). If the nuts have been loosened for a long time, dusts and other impurities may enter the pipe system and may cause malfunction later. So please expel the air out of the pipe with refrigerant before connection.
- 3) Expel the air (refer to the "Expel The Air") after connecting the refrigerant pipe with the indoor unit and the outdoor unit.
Then fasten the nuts at the repair-points.

■ Notices For Bendable pipe.

- The bending angle should not exceed 90°C
- Bending position is preferably in the bendable pipe. The larger the better it is .
- Do not bend the pipe more than three times.

■ Bend the connecting pipe of small wall thickness.

- Cut out a desired concave at the bending part of the insulating pipe.
- Then expose the pipe(cover it with tapes after bending).
- To prevent collapsing of deforming, please bend the pipe at its biggest radius.
- Use bender to get a small radius pipes.

■ Use the market brass pipe.

Be sure to use the same insulating materials when you buy the brass pipe. (More than 9mm thick)

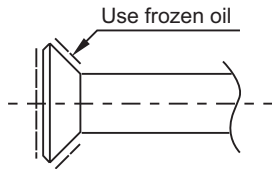


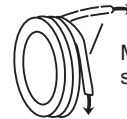
Chart 11

Bend the pipe with thumb



Min-radius 100mm

Chart 12



Make the ends straight

Chart 13

2. Locate The Pipe

- 1) Drill a hole in the wall (suitable just for the size of the wall conduit, 90mm in general), then set on the fittings such as the wall conduit and its cover.
- 2) Bind the connecting pipe and the cables together tightly with binding tapes. Do not let air in, which will cause water leakage by condensation.
- 3) Pass the bound connecting pipe through the wall conduit from outside. Be careful of the pipe allocation to do no damage to the tubing.
3. Connect the pipes.
4. Then, open the stem of stop valves of the outdoor unit to make the refrigerant pipe connecting the indoor unit with the outdoor unit fluently flow.
5. Be sure of no leakage by checking it with leak detector or soap water.
6. Cover the joint of the connecting pipe to the indoor unit with the soundproof/insulating sheath (fittings), and bind it well with the tapes to prevent leakage.

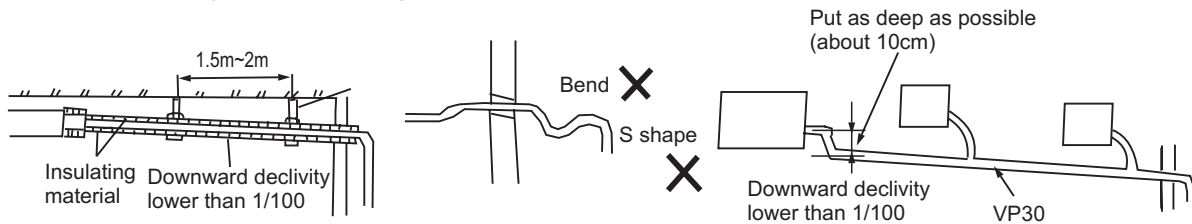
CONNECT THE DRAIN PIPE

1. Install indoor unit drain pipe

The outlet has PTI screw thread, Please use sealing materials and pipe sheath (fitting) when connecting PVC pipes.

CAUTIONS

- The drain pipe of indoor unit must be heat insulated, or it will condense dew, as well as the connections of the indoor unit.
- Hard PVC binder must be used for pipe connection, and make sure there is no leakage.
- With the connection part to the indoor unit, please be noted not to impose pressure on the side of indoor unit pipes.
- When the declivity of the drain pipe downwards is over 1/100, there should not be any winding.
- The total length of the drain pipe when pulled out transversely shall not exceed 20m, when the pipe is over long, a prop stand must be installed to prevent winding.
- Refer to the figures on the right for the installation of the pipes.



2. Drainage test

- Check whether the drainpipe is unhindered

ELECTRIC WIRING

WARNING

Specified power cables should be used. Do not apply any pressure on the terminals used to connect.

Improper connection may cause fire.



Grounding must be properly done.

The grounding wire should be away from gas pipes, water pipes, telephone, lightning rods or other grounding wires. Improper grounding may cause electric shock.



Electric Wiring must be done by professionals. Use a separate circuit according to national regulations.

If the wiring capacity is not enough, electric shock or fire may occur.



CAUTION

Be sure to Install Current Leakage Protection Switch, Or electric shock may occur.

CAUTION

- Power cord is to be selected according to national regulations.
- Outdoor unit power cord should be selected and connected according to the outdoor unit installation manual.
- Wiring should be away from high temperature components, or the insulation layer of the wires may melt down.
- Use wire clamp to fix the wires and terminal block after connection.
- Control wire should be wrapped together with heat insulated refrigerant pipes.
- Connect the indoor unit to power only after the refrigerant has been vacuumed.
- Don't connect the power wire to the signal wire connection end.

■ The Specification of Power

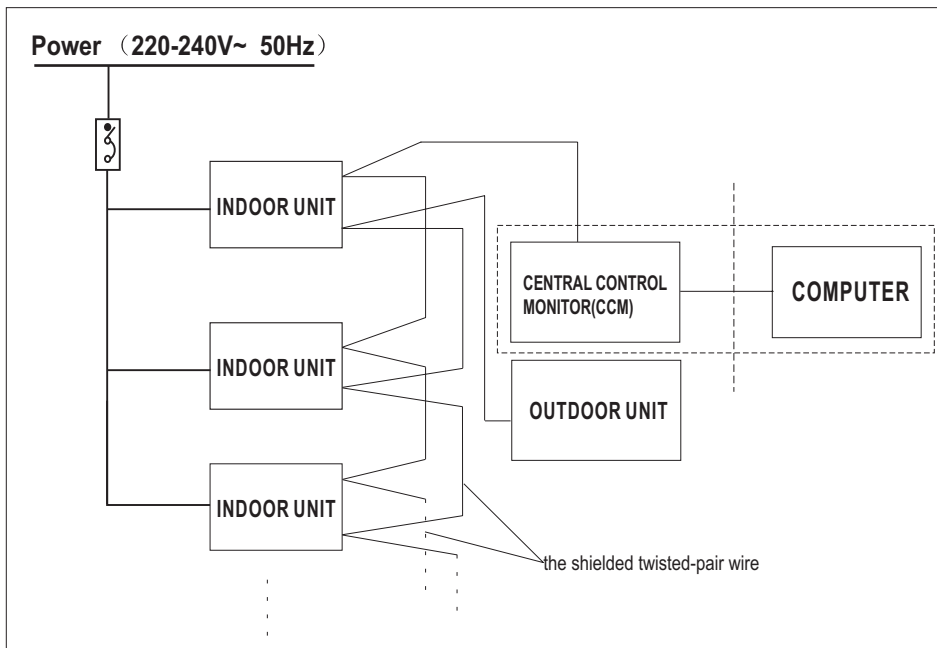
| | | |
|--|---------------------------------|-----------------|
| TYPE(W) | | 2200-8000W type |
| POWER | PHASE | 1-PHASE |
| | FREQUENCY AND VOLT | 220-240V~ 50Hz |
| CIRCUIT BREAKER/FUSE (A) | | 5/3 |
| INDOOR UNIT POWER WIRING(mm ²) | | 2.0 |
| INDOOR/OUTDOOR CONNECTING WIRING (mm ²) | GROUND WIRING(mm ²) | 2.0 |
| | WEAK ELECTRIC SIGNAL | 1.0 |

Table 3

Caution:

A disconnection device having an air gap contact separation in all active conductors should be incorporated in the fixed wiring according to the National Wiring Regulation.

■ Wiring Chart



Caution:

The reserved function is indicated in broken line table, users can select it when necessary

Indoor/Outdoor Unit Signal Wire

Connect the wire according to their numbers.
Wrong connection may cause malfunction .

Wiring Connection

Seal the wiring connection with the insulation material , or the condensing dew will be caused.

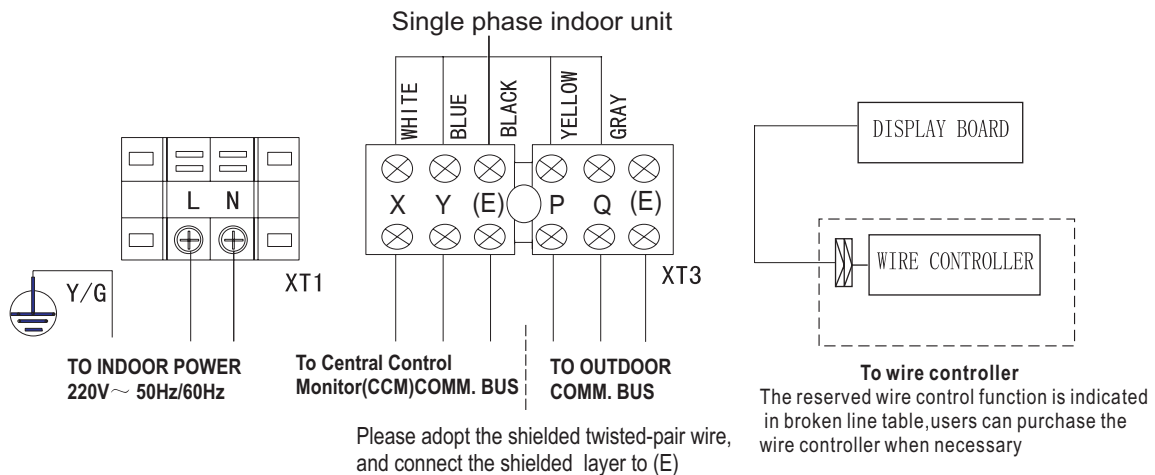
Panel Wiring

Connect the Swing Motor terminal block according to the Panel Installation Manual.

Terminal Board Diagram

Please refer to the indoor unit wiring diagram for the wiring.

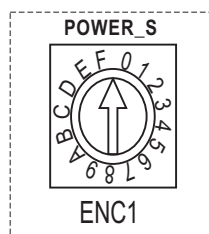
Note: The air-conditioners can connect with Central Control Monitor (CCM). Before operation, please wiring correctly and set system address and network address of indoor units.



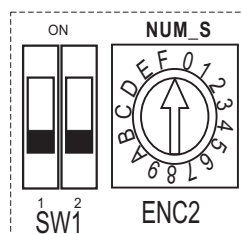
CONTROL

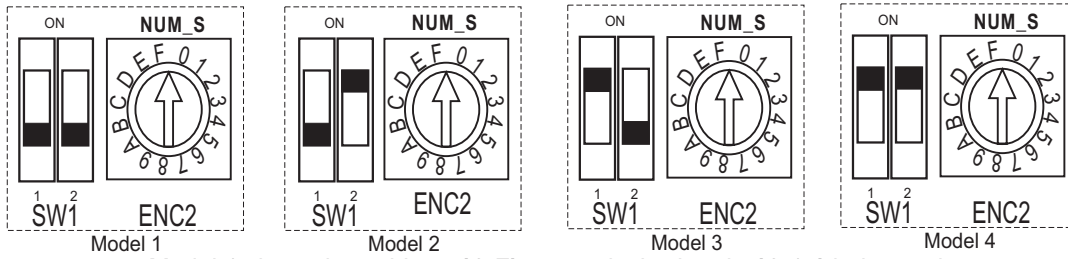
Please number the indoor units during the installation . For example, for the first outdoor unit ,the number of the first indoor unit is 1-1, the second indoor unit is 1-2, and the set address is 1 and 2 respectively , the others is analogical.

Hoursepower code



System address code





Model 1 show the address '0-F' respectively, that is, '0-15' indoor unit;
 Model 2 show the address '0-F' respectively, that is, '16-31' indoor unit;
 Model 3 show the address '0-F' respectively, that is, '32-47' indoor unit;
 Model 4 show the address '0-F' respectively, that is, '48-63' indoor unit.

⚠ Cautions:













1. The system together have 64 units (0-63), everyone has only system address code, If two addresses are the same in one system, the abnormal operation will occur.
2. Please switch off the power before setting, otherwise the unexpected error will occur.

| ENC1 | Toggle switch | For set horsepower |
|---|---------------|----------------------|
| Note: The horsepower has been set before leaving the factory, anyone can't modify it except the maintenance person. | Code | Capacity(Horsepower) |
| | 0 | 2200W(0.8HP) |
| | 1 | 2800W(1.0HP) |
| | 2 | 3600W(1.2HP) |
| | 3 | 4500W(1.5HP) |
| | 4 | 5600W(2.0HP) |
| | 5 | 7100W(2.5HP) |
| 6 | 8000W(3.0HP) | |

| ENC2 | TOGGLE SWITCH | FOR SETTING ADDRESS |
|--|---------------|---------------------|
| '0-F' show the address '0-F' respectively, that is, '0-15' indoor unit (together 16 units), and the others follow the analogy. If two addresses are the same in one system, the abnormal operation will occur. | | |

Network address set

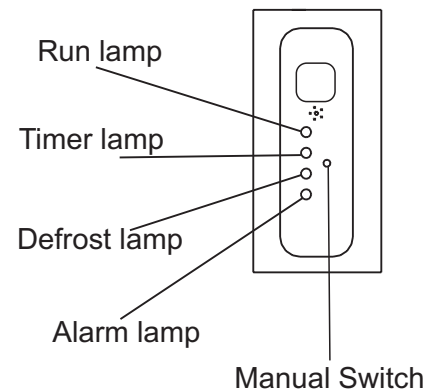
Every air-conditioner in network has only one network address to distinguish each other. Address code of air-conditioner in LAN is set by code switch on Network Interface Module (NIM), and the set range is 0-63.

| Toggle switch set | | | Network address code | |
|--|--|---|--|-------|
| S1 | S2 | | | |
|  |  | ~ |  | 00~15 |
|  |  | ~ |  | 16~31 |
|  |  | ~ |  | 32~47 |
|  |  | ~ |  | 48-63 |

TROUBLE SHOOTING

The timer lamp flashes quickly.

| No. | Type | Contents | LED Lamp flash | Remarks |
|-----|-------------|--|--|---|
| 1 | Malfunction | The evaporator sensor check point is abnormal, or room temp. sensor is abnormal. | Run lamp flashes quickly. | After the malfunctions disappear, it restores automatically. |
| 2 | Malfunction | Indoor/outdoor unit communication is abnormal. | The timer lamp flashes quickly. | After the malfunctions disappear, it restores automatically. |
| 3 | Malfunction | Condenser sensor check point is abnormal or outdoor temp. sensor is abnormal. | All the indoor alarm lamps flash slowly. | After the malfunctions disappear, it restores automatically. |
| 4 | Malfunction | Water level switch is abnormal | Alarm lamp flashes quickly. | If the malfunctions can't be solved in three min. all the indoor alarm lamps flash at 0.5Hz. Turn off the power to restore. |
| 5 | Alarm | Mode conflict | Defrost lamp flashes quickly. | When the indoor unit turns to heating mode or is turned off, the alarm will disappear. |



TEST OPERATION

1. The test operation must be carried out after the entire installation has been completed.
 2. Please confirm the following points before the test operation:
 - The indoor unit and outdoor unit are installed properly.
 - Tubing and wiring are correctly completed.
 - The refrigerant pipe system is leakage-checked.
 - The drainage is unimpeded.
 - The heating insulation works well.
 - The ground wiring is connected correctly.
 - The length of the tubing and the added stow capacity of the refrigerant have been recorded.
 - The power voltage fits the rated voltage of the air conditioner.
 - There is no obstacle at the outlet and inlet of the outdoor and indoor and indoor units.
 - The gas-side and liquid-side stop valves are both opened.
 - The air conditioner is pre-heated by turning on the power.
 3. According to the user's requirement, install the remote controller frame where the remote controller's signal can reach the indoor unit smoothly.
 4. Test operation
 - Set the air conditioner under the mode of "COOLING" with the remote controller, and check the following points per the "Owner's Manual" If there is any malfunction, please resolve it through chapter "Troubles And Causes" .
- 1) The indoor unit
 - a. Whether the switch on the remote controller works well.
 - b. Whether the buttons on the remote controller works well.
 - c. Whether the air flow louver moves normally.
 - d. Whether the room temperature is adjusted well.
 - e. Whether the indicator lights normally.
 - f. Whether the temporary buttons works well.
 - g. Whether the drainage is normal.
 - h. Whether there is vibration or abnormal noise during operation.
 - l. Whether the air conditioner heats well in the case of the HEATING/COOLING type.
 - 2) The outdoor unit
 - a. Whether there is vibration or abnormal noise during operation.
 - b. Whether the generated wind, noise, or condensed water by the air conditioner have influenced your neighborhood.
 - c. Whether any of the refrigerant is leaked.

Cautions

Protection function will delay the startup of compressor for 3 minutes in case the unit is turned on immediately after power on or restarted after shutdown.

DE - COMMISSIONING DISMANTLING & DISPOSAL

This product contains refrigerant under pressure, rotating parts, and electrical connections which may be a danger and cause injury!

All work must only be carried out by competent persons using suitable protective clothing and safety precautions.



Read the Manual



Risk of electric shock



Unit is remotely controlled and may start without warning

1. Isolate all sources of electrical supply to the unit including any control system supplies switched by the unit. Ensure that all points of electrical and gas isolation are secured in the OFF position. The supply cables and gas pipework may then be disconnected and removed. For points of connection refer to unit installation instructions.
2. Remove all refrigerant from each system of the unit into a suitable container using a refrigerant reclaim or recovery unit. This refrigerant may then be re-used, if appropriate, or returned to the manufacturer for disposal. **Under No circumstances should refrigerant be vented to atmosphere.** Where appropriate, drain the refrigerant oil from each system into a suitable container and dispose of according to local laws and regulations governing disposal of oily wastes.
3. Packaged unit can generally be removed in one piece after disconnection as above. Any fixing down bolts should be removed and then unit lifted from position using the points provided and equipment of adequate lifting capacity. Reference MUST be made to the unit installation instructions for unit weight and correct methods of lifting. Note that any residual or spilt refrigerant oil should be mopped up and disposed of as described above.
4. After removal from position the unit parts may be disposed of according to local laws and regulations.



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