



4TXM2318BF300AA
4TXM2324BF300AA
4TXM2330BF400AA
4TXM2336BF500AA
4TXM2342BF500AA






Super Match Service Manual



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Part 1 General Information

1.1 Line up

	Model	Apperance
Outdoor Unit	4TXM2318BF300AA	
	4TXM2324BF300AA	
	4TXM2330BF400AA	
	4TXM2336BF500AA	
	4TXM2342BF500AA	

		Model	Appearance
Indoor unit	Cassette	4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA	
		4MXC2324BF0W0AA	
	Low ESP Duct	4MXD2309BF0R0AA 4MXD2312BF0R0AA 4MXD2318BF0R0AA 4MXD2324BF0R0AA	
	One-way Cassette	4MXE2309BF0W0AA 4MXE2312BF0W0AA	

Part 2 4-way Cassette

2.1 Specification

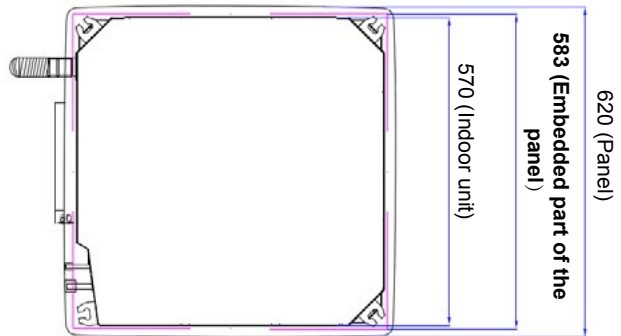
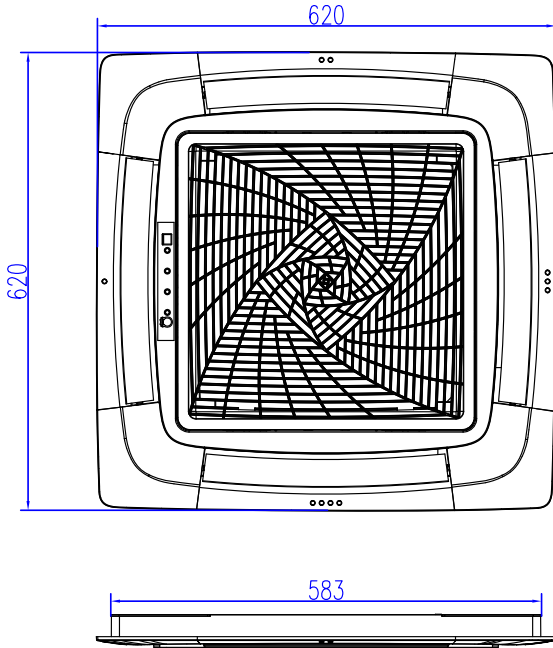
TRANE Model		IDU	4MXC2309BF0W0AA	4MXC2312BF0W0AA
		Panel	4MXL2318BF0W0AA	4MXL2318BF0W0AA
Power supply		V-ph-Hz	220-1-50(60)	220-1-50(60)
Cooling	Capacity	Btu/h	8,500	12,000
	Capacity	W	2,500	3,500
Heating	Capacity	Btu/h	9,000	12,000
	Capacity	W	2,700	3,500
Indoor fan motor	Model		ZW465C03	ZW465C03
	Qty		1	1
	Input	w	33	33
	Capacitor	uF	/	/
	Speed(hi/mi/lo)	r/min	690/620/560	690/620/560
Indoor coil	a.Number of rows		1	2
	b.Tube pitch(a)× row pitch(b)	mm	21×13.3	21×13.3
	c.Fin spacing	mm	1.25	1.25
	d.Fin type (code)		Hydrophilic aluminium	Hydrophilic aluminium
	e.Tube outside dia.and type	mm	Φ7,innergroove tube	Φ7,innergroove tube
	f.Coil length × height × width	mm	1,330×210×13.3	1,330×210×26.6
	g.Number of circuits		5	10
Indoor air flow (Hi/Med/Lo)		m	620/520/450	620/520/450
Sound level (sound pressure)		dB(A)	36/33/30	36/33/30
Throttle type			/	/
Indoor unit	Dimension (W × D × H)(body)	mm	570×570×260	570×570×260
	Packing (W × D × H)(body)	mm	718×680×380	718×680×380
	Dimension (W × D × H)(panel)	mm	620×620×60	620×620×60
	Packing (W × D × H)(panel)	mm	660×660×115	660×660×115
	Net/Gross weight(body)	kg	17/20	18.5/22
	Net/Gross weight(panel)	kg	2.8/4.8	2.8/4.8
Design pressure		MPa	4.15	4.15
Drainage water pipe dia.		mm	PVC 26/32	PVC 26/32
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ9.52	Φ6.35/Φ9.52
Controller			Remote control	Remote control
Operation temperature		℃	16~30	16~30
Room temperature	Cooling	℃	18~32	18~32
	Heating	℃	15~27	15~27
Qty'per 20' /40' /40'HQ			118/240/284	118/240/284

TRANE Model		IDU	4MXC2318BF0W0AA	4MXC2324BF0W0AA
		Panel	4MXL2318BF0W0AA	4MXL2324BF0W0AA
Power supply		V-ph-Hz	220-1-50(60)	220-1-50(60)
Cooling	Capacity	Btu/h	17,000	24,000
	Capacity	W	5,000	7,000
Heating	Capacity	Btu/h	18,000	24,000
	Capacity	W	5,300	7,000
Indoor fan motor	Model		ZW465C03	ZWK465B500011
	Qty		1	1
	Input	w	33	72
	Capacitor	uF	/	/
	Speed(hi/mi/lo)	r/min	800/700/600	500/400/300
Indoor coil	a.Number of rows		2	2
	b.Tube pitch(a)× row pitch(b)	mm	21×13.3	21×13.3
	c.Fin spacing	mm	1.25	1.4
	d.Fin type (code)		Hydrophilic aluminium	Hydrophilic aluminium
	e.Tube outside dia.and type	mm	Φ7,innergroove tube	Φ7,innergroove tube
	f.Coil length × height × width	mm	1,330×210×26.6	2,242×168×26.6
	g.Number of circuits		10	8
Indoor air flow (Hi/Med/Lo)		m	700/620/500	1,260/1,070/820
Sound level (sound pressure)		dB(A)	42/37/35	36/33/29
Throttle type			/	/
Indoor unit	Dimension (W × D × H)(body)	mm	570×570×260	840×840×204
	Packing (W × D × H)(body)	mm	718×680×380	990×990×310
	Dimension (W × D × H)(panel)	mm	620×620×60	950×950×50
	Packing (W × D × H)(panel)	mm	660×660×115	1,000×1,000×110
	Net/Gross weight(body)	kg	19/22	27/31
	Net/Gross weight(panel)	kg	2.8/4.8	6.5/9
Design pressure		MPa	4.15	4.15
Drainage water pipe dia.		mm	PVC 26/32	PVC 26/32
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ9.52/Φ15.88
Controller			Remote control	Remote control
Operation temperature		°C	16~30	16~30
Room temperature	Cooling	°C	18~32	18~32
	Heating	°C	15~27	15~27
Qty'per 20' /40' /40'HQ			118/240/284	55/125/144

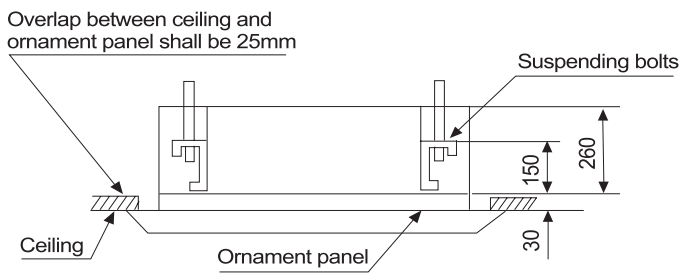
2.2 Dimension

4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA

4MXL2324BF0W0AA

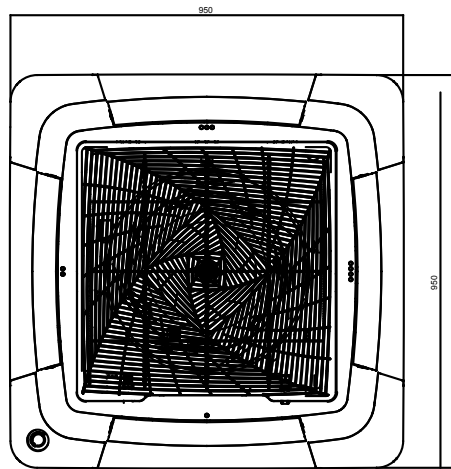
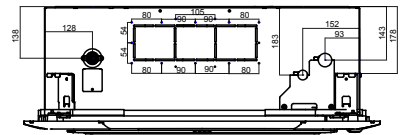
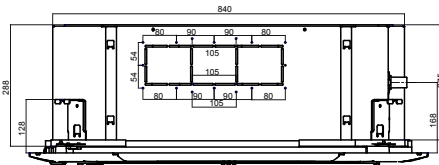
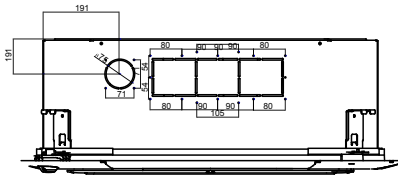
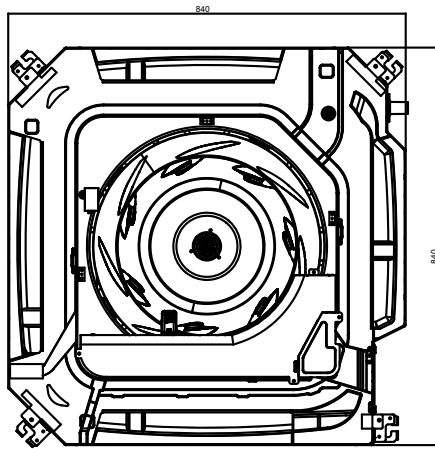


Note: to ensure that the panel can be installed properly, for 4MXL2324BF0W0AA panel, the minimum opening size of the ceiling should be more than 583mm.



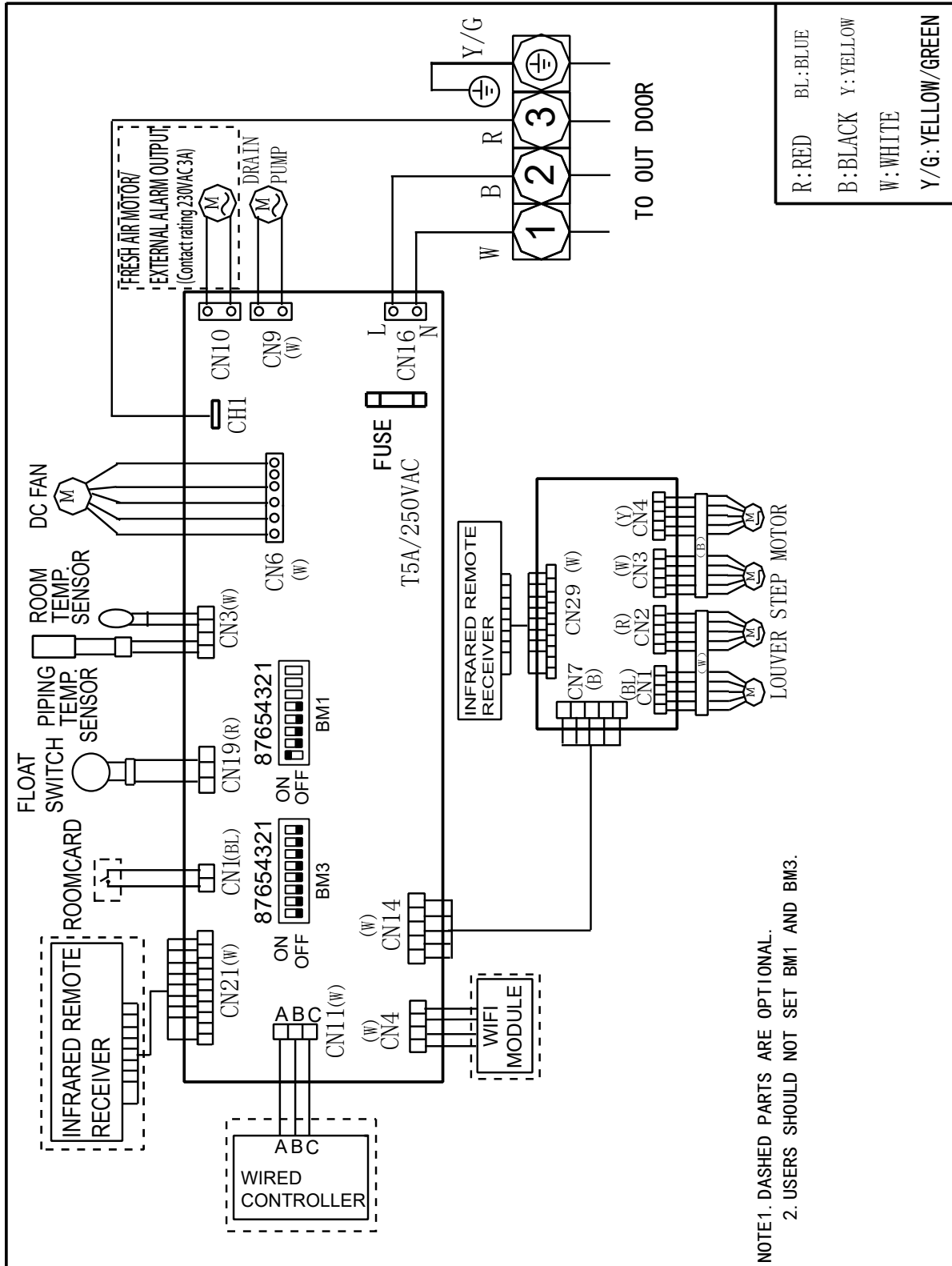
Note: the design dimension of the embedded part of the panel, PB-620KB is 583mm

4MXC2324BF0W0AA



2.3 Wiring Diagram

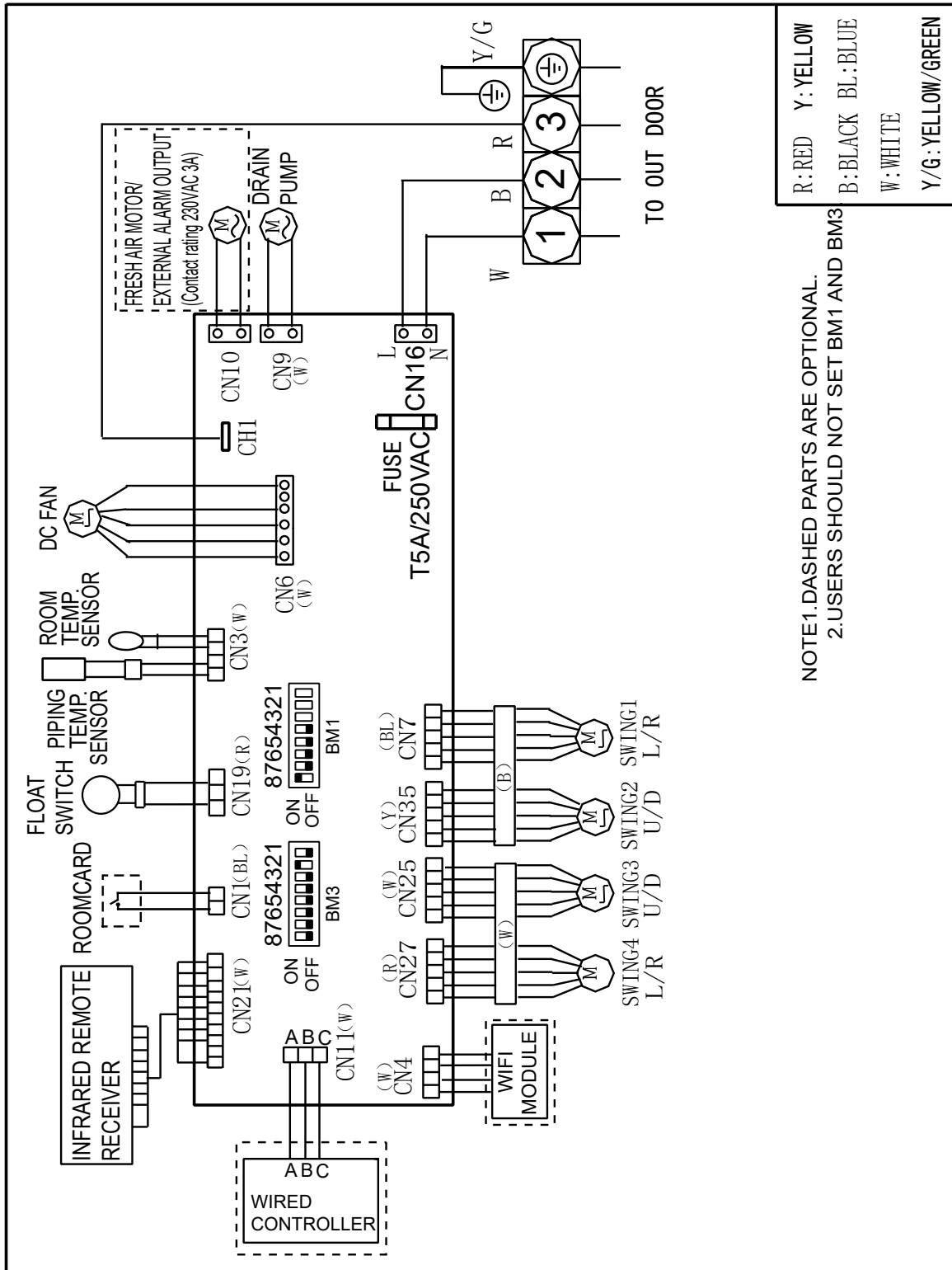
4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA (Manufactured before 6th May, 2021)



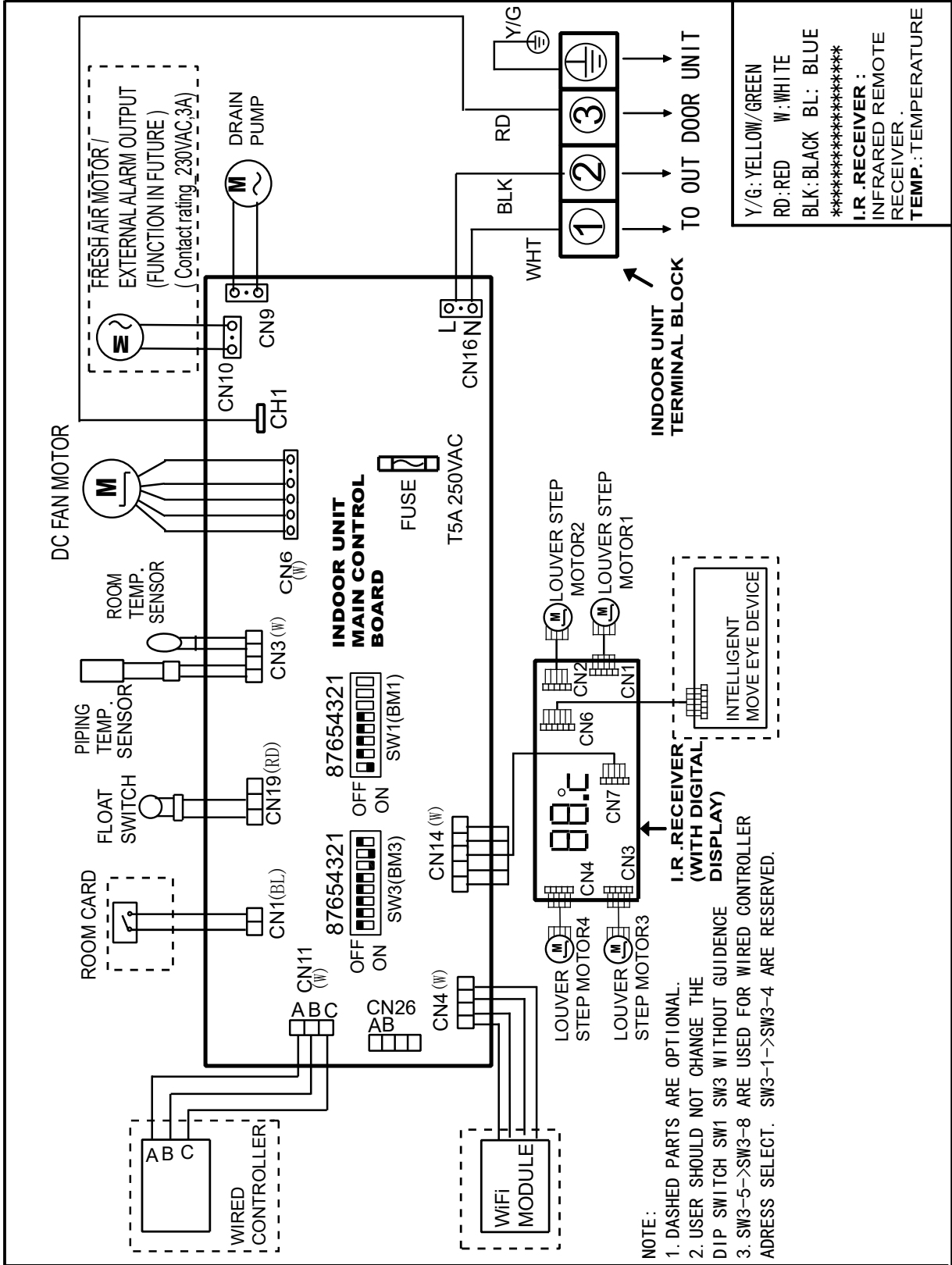


TRANE

4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA (Manufactured after 6th May, 2021)



4MXC2324BF0W0AA (Manufactured after 6th May, 2021)



2.4 Air Velocity and Temperature Distribution

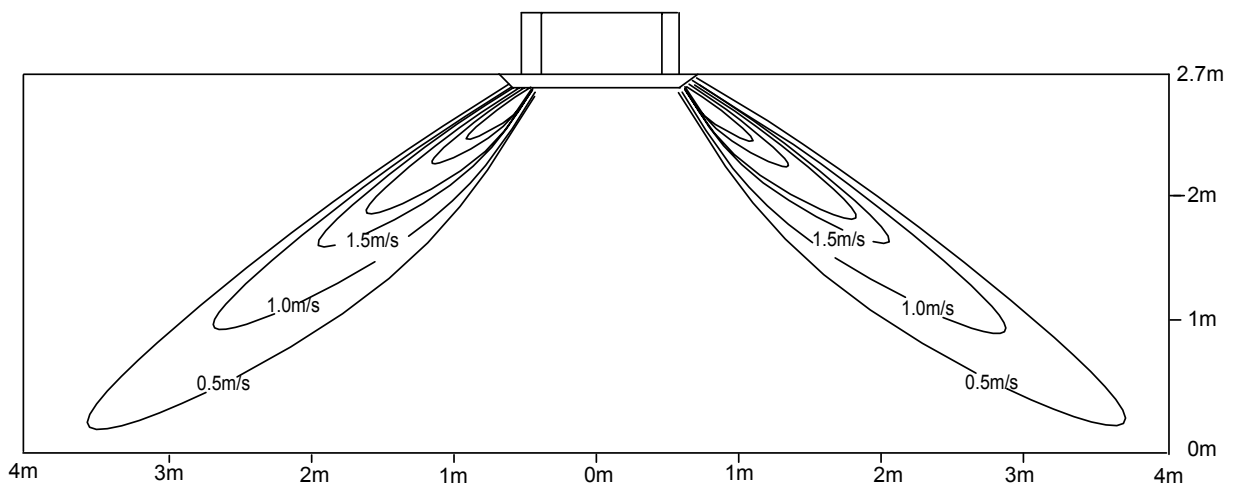
4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA 4MXC2324BF0W0AA

a. Cooling / air velocity distribution

Cooling

Blow angle: 40

Air velocity distribution

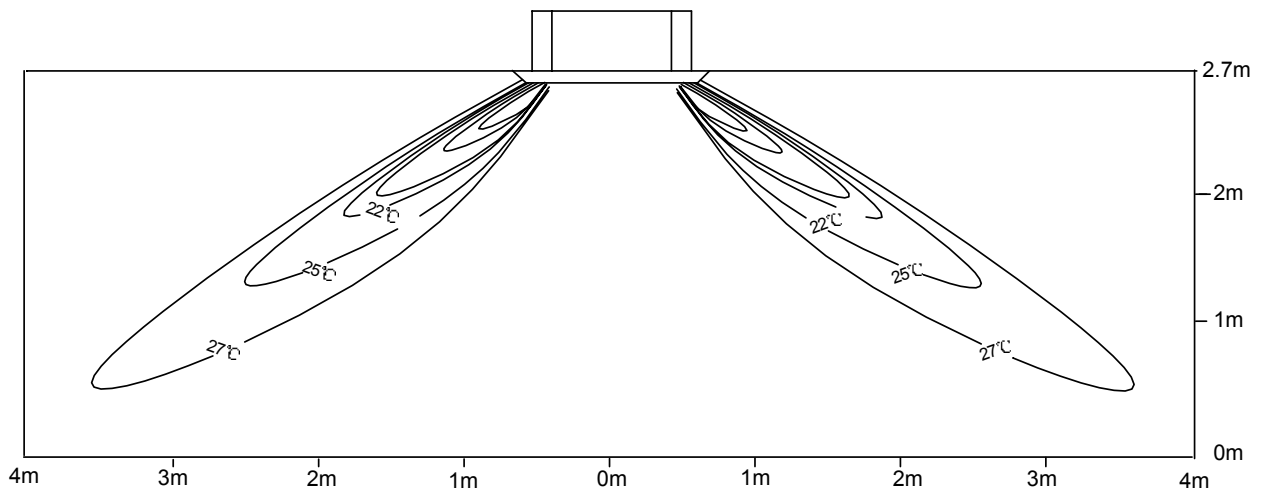


b. Cooling / temperature distribution

Cooling

Blow angle:40

Temperature distribution

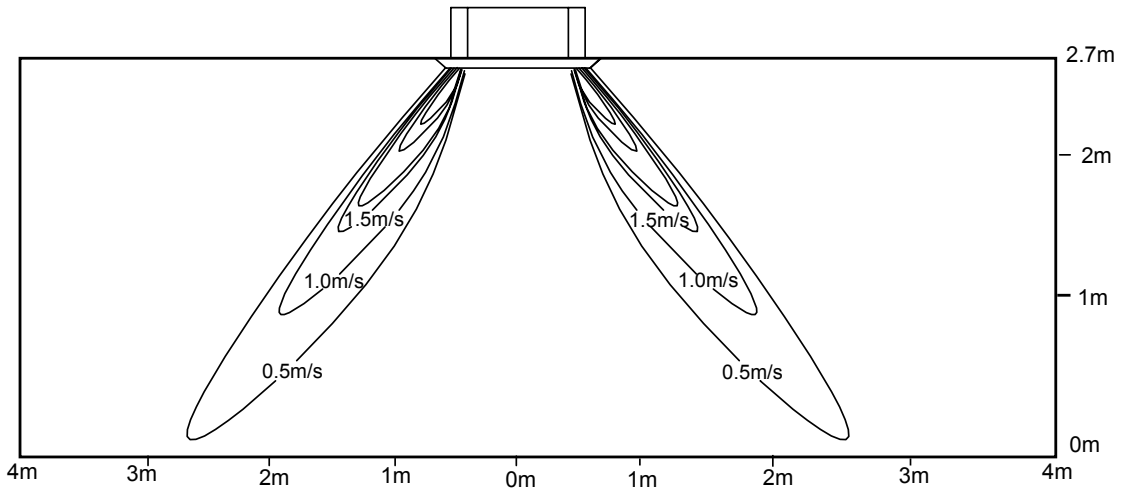


c. Heating / air velocity distribution

Heating

Blow angle: 70°

Air velocity distribution

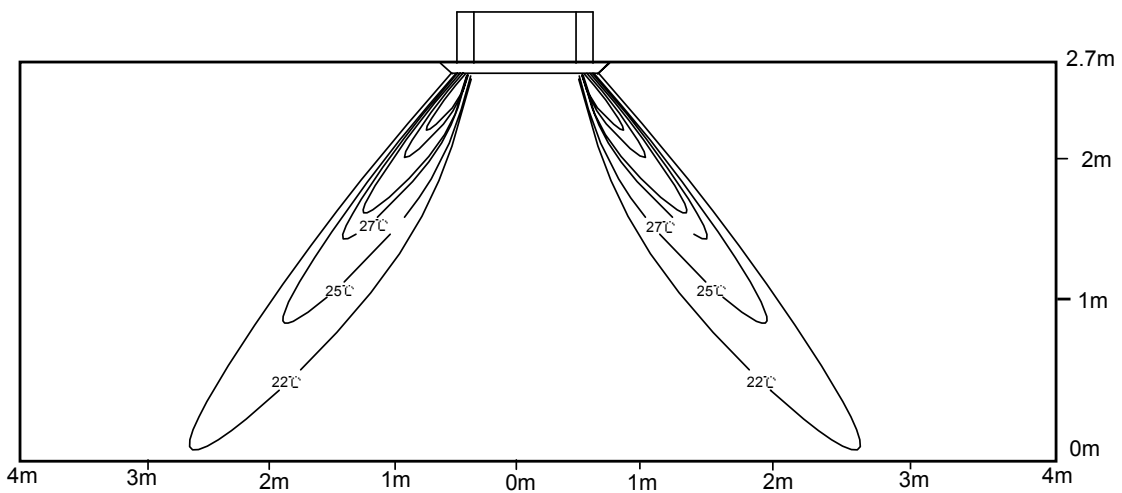


d. Heating / temperature distribution

Heating

Blow angle: 70°

Temperature distribution



2.5 Installation

4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA 4MXC2324BF0W0AA

① Before Installation <Don't discard any accessories until comp>

- Determine the way to carry unit to installation place.
- Don't remove packing until unit reaches installation place.
- If unpacking is unavoidable, protect unit properly.

② Selection Of Installation Place

(1) Installation place shall meet the following and agreed by customers

- Place where proper air flow can be ensured.
- No block to air flow.
- Water drainage is smooth.
- Place strong enough to support unit weight.
- Place where inclination is not evident on ceiling.
- Enough space for maintenance.
- Indoor and outdoor unit piping length is within limit. (Refer to Installation Manual for outdoor unit.)
- Indoor and outdoor unit, power cable, inter unit cable are at least 1m away from T.V. radop. This is helpful to avoid picture disturbance and noise. (Even if 1m is kept, noise can still appear if radio wave is strong)

(2) Ceiling height

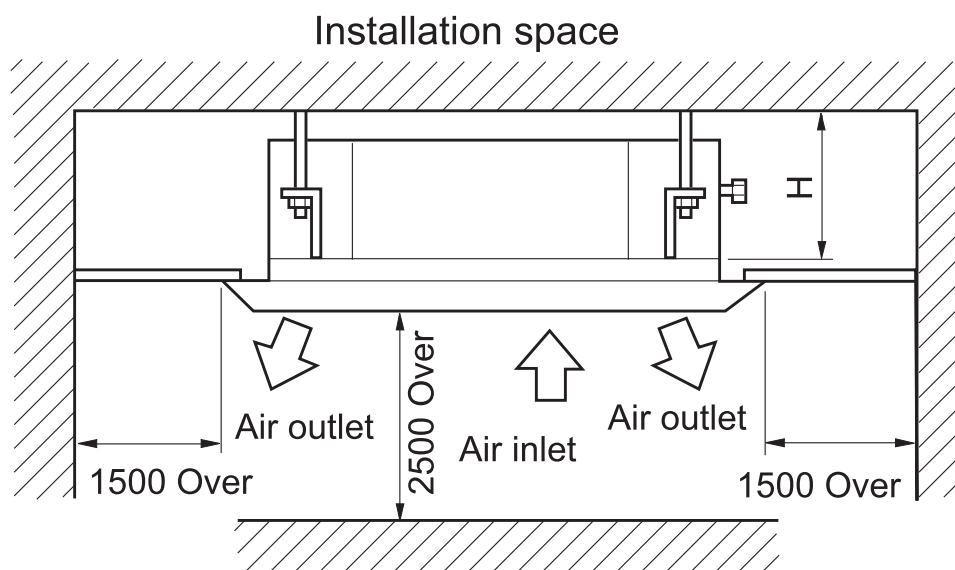
Indoor unit can be installed on ceiling of 2.5-3m in height. (Refer to field setting and installation manual of ornament panel.)

(3) Install suspending bolt.

Check if the installation place is strong enough to hold weight. Take necessary measures in case it is not safe.

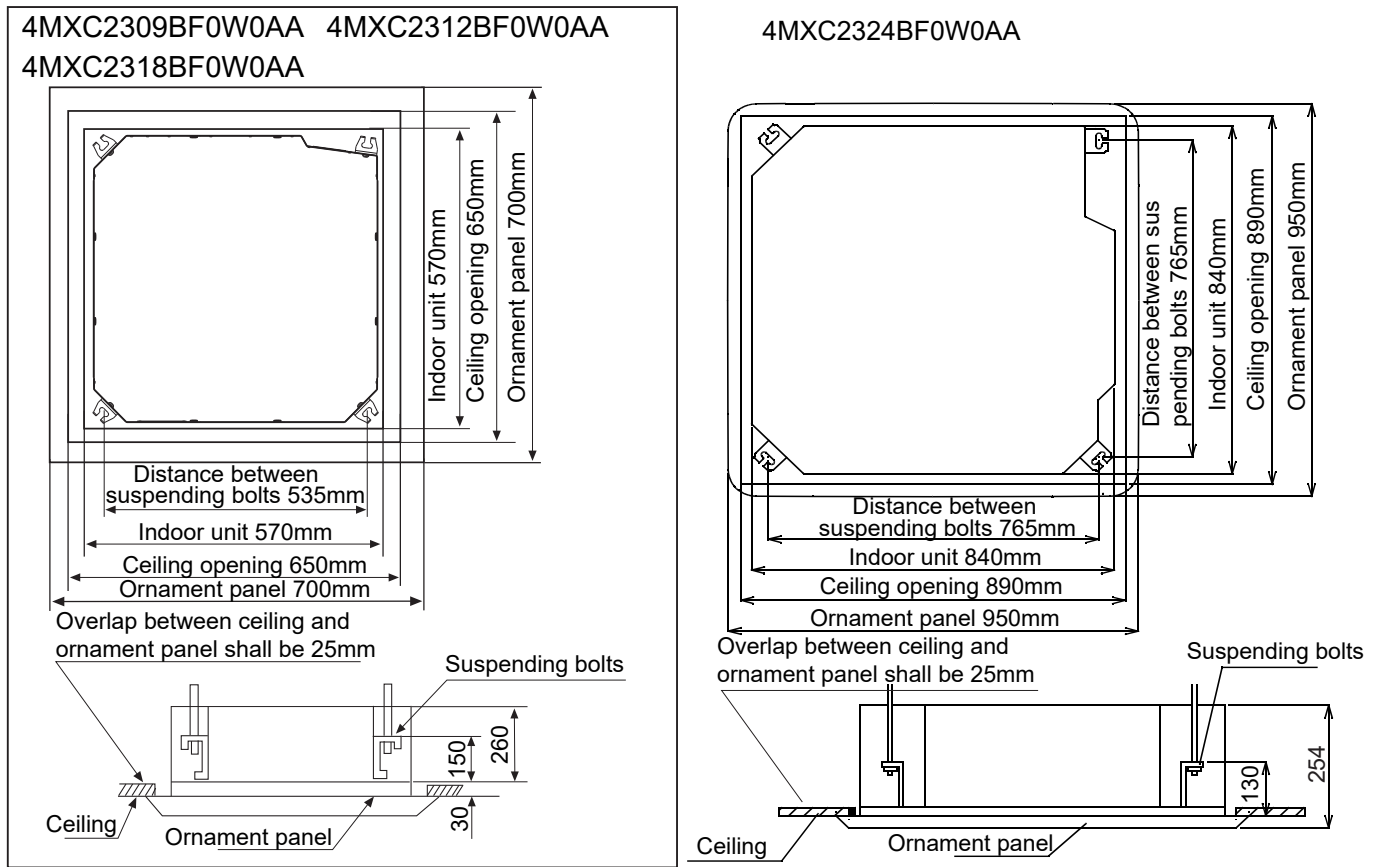
(Distance between holes are marked on paper pattern. Refer to paper pattern for place need be reinforced)

Model	H
4MXC2309BF0W0AA 4MXC2312BF0W0AA	260
4MXC2318BF0W0AA	
4MXC2324BF0W0AA	204



③ Preparation for the Installation

(1) Position of ceiling opening between unit and suspending bolt.



Indoor Unit	Panel
4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA	4MXL2318BF0W0AA
4MXC2324BF0W0AA	4MXL2324BF0W0AA

(2) Cut an opening in ceiling for installation if necessary. (When ceiling already exists.)

- Refer to paper pattern for dimension of ceiling hole.
- Connect all pipings (Refrigerant, water drainage), wirings (Inter unit cable) to indoor unit, before installation.
- Cut a hole in ceiling, may be a frame should be used to ensure a smooth surface and to prevent vibration.
- Contact your real estate dealer

(3) Install a suspending bolt. (Use a M10 bolt)

- To support the unit weight, anchor bolt shall be used in the case of already exists ceiling. For new ceiling, use builtin type bolt or parts prepared in the field.
- Before going on installing adjust space between ceiling.

Note: All the above mentioned parts shall be prepared in field.

④ Installation of Indoorunit In The Case of New Ceiling

(1) Install unit temporarily

Put suspending bracket on the suspending bolt.
Be sure to use nut and washer at both ends of the bracket.

(2) As for the dimensions of ceiling hole, see paper pattern.
Ask your real estate dealer for details.

Center of the hole is marked on the paper pattern.
Center of the unit is marked on the card in the unit
and on the paper pattern.

Mount paper pattern ⑤ onto unit using 3 screws

⑥ Fix the corner of the drain pan at piping outlet.

<After Installation on the Ceiling>

(3) Adjust unit to its right position.

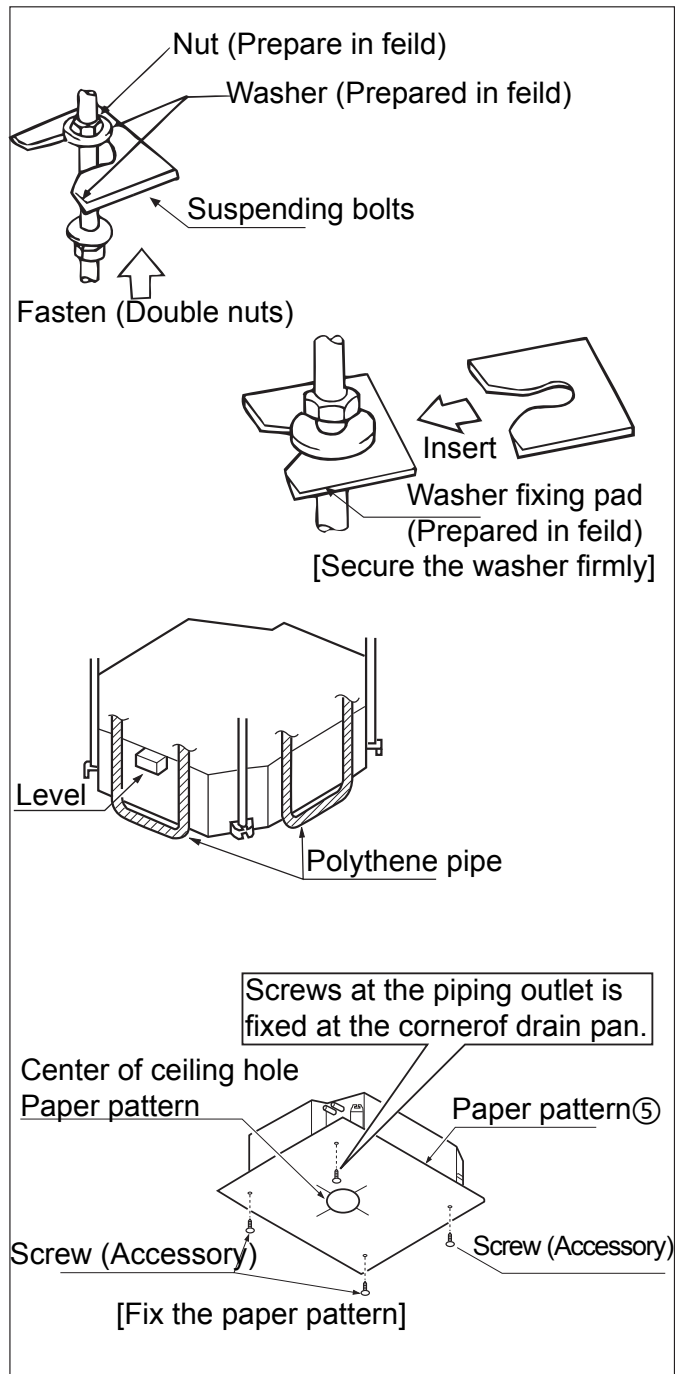
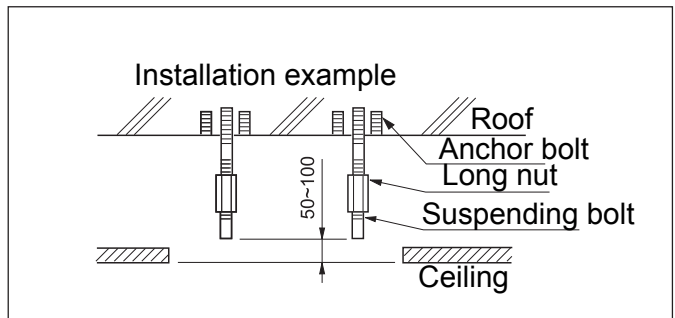
(Refer to preparation for the installation-(1))

(4) Check units horizontal level.

Water pump and flating switch is installed inside
indoor unit, check four corners of the unit for its level
using horizontal compartor or PVC tube with water. (If
unit is tilting against the direction of water drainage,
problem may occur on floating switch, causing water
leakage.)

(5) Remove the washer mounlting ② and tighten the
nut above.

(6) Remove the paper pattern.



In the Case of Ceiling Already Exists

(1) Install unit temporarily

Put suspending bracket on the suspending bolt.

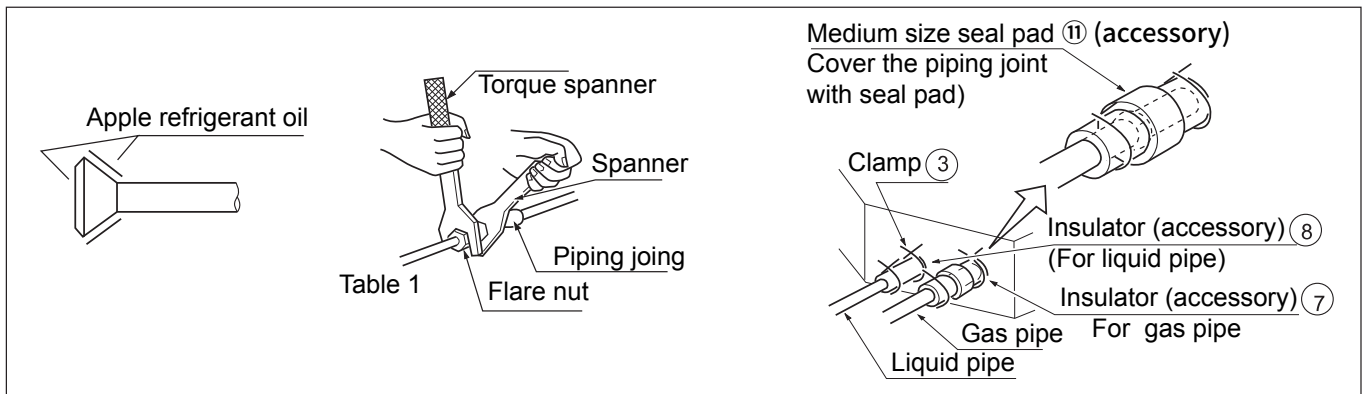
Be sure to use nut and washer at both ends of the bracket. Fix the bracket firmly.

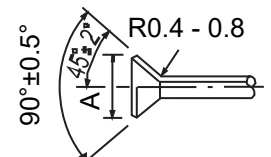
(2) Adjust the height and position of the unit. (Refer to preparation for the installation (1)).

(3) Proceed with ③ and ④ of "In the case of new ceiling".

⑤ Refrigerant Piping (As for outdoor piping, please refer to installation manual of outdoor unit.)

- Outdoor is precharged with refrigerant.
- Be sure to see the Fig.1, when connecting and removing piping from unit.
- For the size of the flare nut, please refer to Table 1.
- Apply refrigerant oil at both inside and outside of flare nut. Tighten it band tight 3-4 turns then tighten it.
- Use torque specified in Table 1. (Too much force may damage flare nut, causing gas leakage).
- Check piping joints for gas leakage. Insulate piping as shown in Fig. below.
- Cover joint of gas piping and insulator 7 with seal.



Pipe Size	Tighten Torque	A (mm)	Flare Shape
φ6.35	1420-1720N.cm (144-176 kgf.cm)	8.3-8.7	
9.52	3270-3990N.cm (333-407 kgf.cm)	12.0-12.4	
12.7	4950-6030N.cm (490-500 kgf.cm)	12.4-16.6	
15.88	6180-7540N.cm (630-770 kgf.cm)	18.6-19.0	
19.05	9720-11860N.cm (990-1210 kgf.cm)	22.9-23.3	

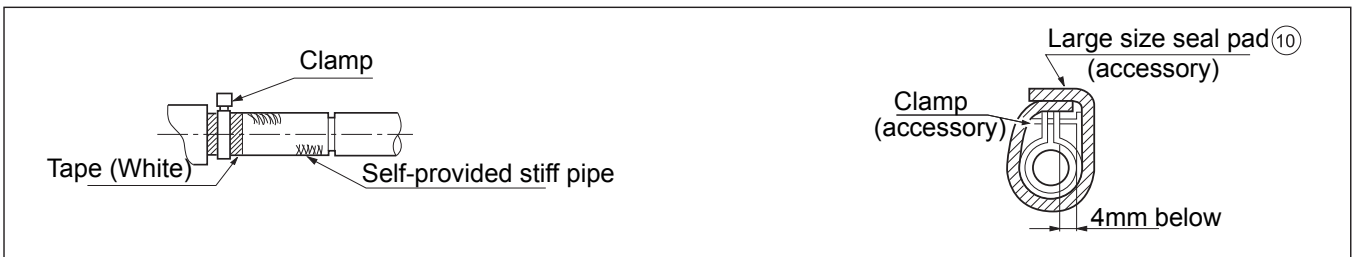
⑥ Installation of Waterdrainage Pipe

(1) Install water drainage pipe

- Pipe dia, shall be equal or larger than that of unit piping. (Pipe of polyethylent; size 25mm; O.D 32mm)
- Drain pipe should be short, with a downward slope at least 1/100 to prevent air bag from happening.
- If downward slope can't be made, take other measures to lift it up.
- Keep a distance of 1-1.5m between suspending brackets, to make water hose straight.



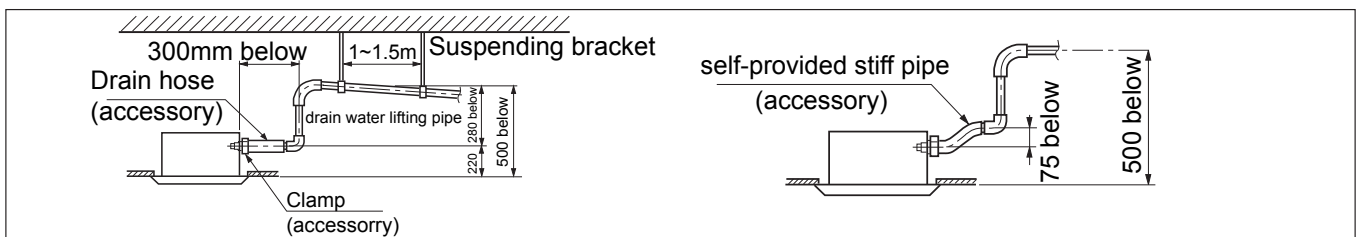
- Use the self-provided stiff pipe and clamp ① with unit. Insert water pipe into water plug until it reaches the white tape. Tighten the clip until head of the screw is less than 4mm from hose.
- Wind the drain hose to the clip using seal pad ⑨.
- Insulate drain hose in the room.



<Cautions for the Drain Water Lifting Pipe >

Installation height shall be less than 280mm.

There should be a right angle with unit, 300mm from unit.

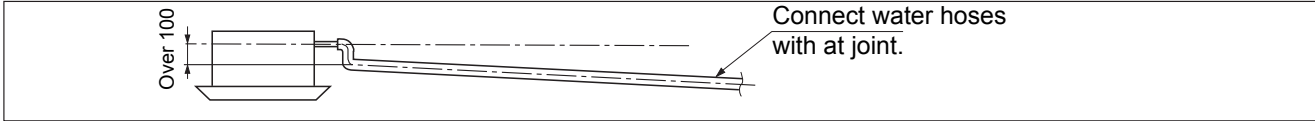


Note:

The slope of water drain hose (1) shall be within 75mm, don't apply too much force on it.

If several water hoses join together, do as per following procedures.

Specifications of the water hoses shall meet the requirements for the unit running.



(2) Check if water drainage is smooth after installation.

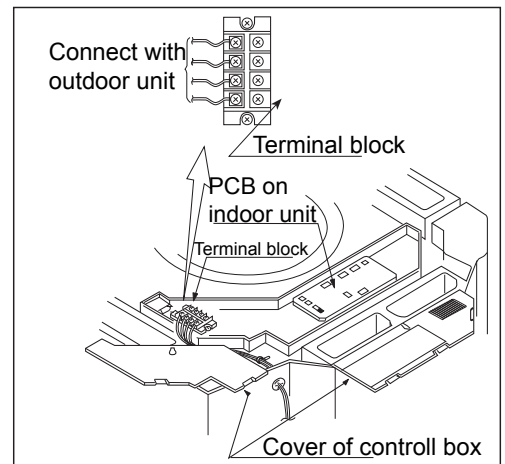
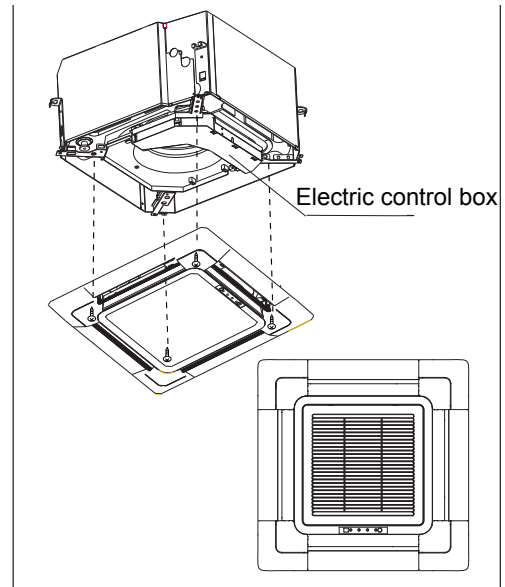
- Check whether indoor unit is horizontal with leveler or polythene pipe filled with water, and check that the dimension of the ceiling opening is correct. Take off the lever gauge before install the ornament panel.
- Fasten the screws to make the height difference between the two sides of indoor unit less than 5mm.
- First fix it with screws temporarily.
- Fasten the two temporarily fixing screws and other two, and tighten the four screws.
- Connect the wires of synchro-motor.
- Connect the wire of signal.
- If no response of remote controller, check whether the wiring is correct, restart remote controller 10 seconds after shut off power supply.

<Limits of Panel Board Installation>

- Install the panel board in the direction shown in the figure. The incorrect direction will result in water leakage, meanwhile swing and signal receiving are displayed that cannot be connected.
- Charge, through air outlet or inspecting hole, 1200ccd water to see water drainage.

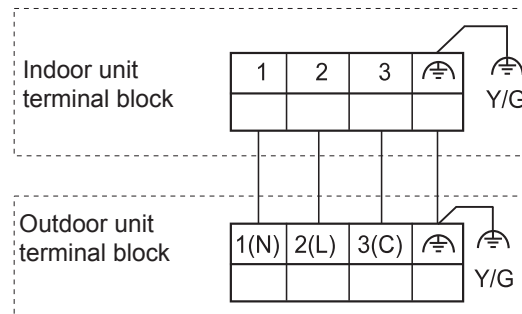
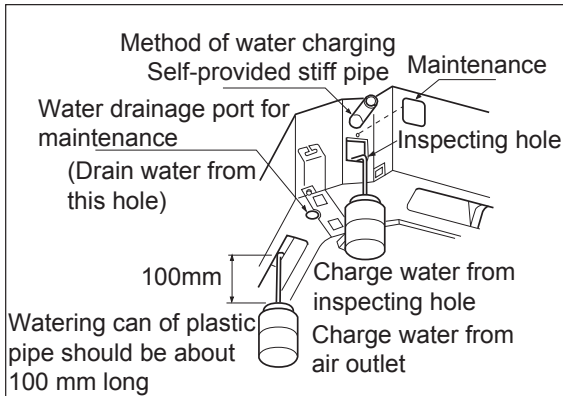
After Wiring

- Check water drainage in cooling operation.



When Wiring is not Complete

- Remove cover of control box, connect 1PH power to terminal 1 and 2 on terminal block. Use remote controller to operate the unit.
- Note, in this operation, fan will be running.
- Upon confirmation of a smooth water drainage, be sure to cut off power supply.

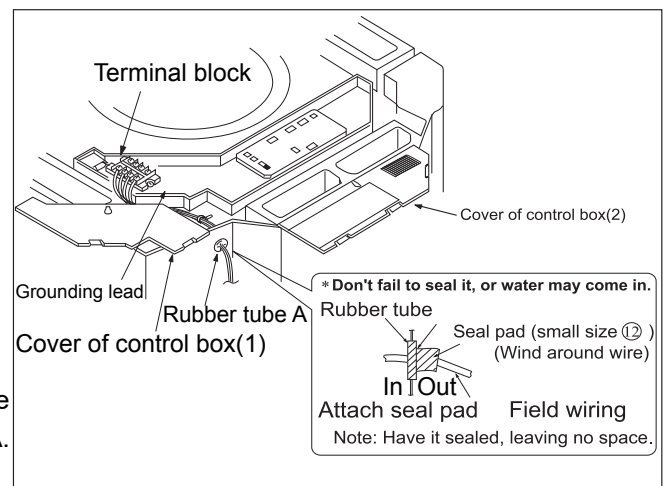


⑦ WIRING

- All supplied parts, materials and wiring operation must in appliance with local code and regulations.
- Use copper wire only.
- When make wiring, please refer to wiring diagram also.
- All wiring work must be done by qualified electricians.
- A circuit breaker must be installed, which can cut power supply to all system.
- See Installation Manual of outdoor unit for specifications of wires, circuit breaker, switches and wiring etc.
- Connecting of unit

Remove cover of switch box (1), drag wires into rubber tube A, then, after proper wiring with other wires, tighten clamp A. Connect wires of correct pole to the terminal block inside. Wind sea 12 around wires. (Be sure to do that, or, dew may occur).

- Upon connecting, replace control box cover (1) and (2).



⚠ WARNING:

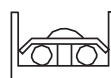
Observe the following when connecting power supply terminal block.

Don't connect wires of different specifications to the same terminal block.

(Loose wire may cause overheating of circuit)

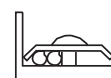
Connect wires of same specifications as shown in right Fig.

Connect wires of the same specifications at two sides.



O

Don't connect wires of the same specifications at one side.



X

Don't connect wires of the same specifications at one side.



X

⑧ **Wiring Example**

As for outdoor unit circuit, please see installation manual of outdoor unit.

Note all electric wires have their own poles, poles must match that on terminal block.

Pay special care to the following and check after installation

Item to be checked	Unproper installation may cause	Check
Is indoor unit firmly installed?	Unit might fall down, make vibration or noise.	
Is gas leakage check performed?	This may lead to gas shortage.	
Is unit properly insulated?	Dew or water drop may occur.	
Is water drainage smooth?	Dew or water drop may occur.	
Is power voltage meet that stipulated on the nameplate?	Problem may occur or parts got burned.	
Is wiring and piping correctly arranged?	Problem may occur or parts got burned.	
Is unit safely grounded?	There might be a danger of electric shock.	
Is wire size correct?	Problem may occur or parts got burned.	
Are there any obstacles on air inlet and outlet grill of indoor and outdoor unit?	This may cause poor cooling.	
Is record made for piping length and refrigerant charging amount?	It is hard to control refrigerant charging amount.	

Attention: After finishing installation, confirm no refrigerant leakage.

- The installation of pipe-work shall be kept to a minimum.
- Pipe-work shall be protected from physical damage and shall not be installed in an unventilated space, if that space is smaller than a min (2m²).
- Compliance with national gas regulations shall be observed.
- Mechanical connections shall be accessible for maintenance purposes.
- The minimum floor area of the room: 2m².
- The maximum refrigerant charge amount: 1.7 kg.
- Information for handling, installation, cleaning, servicing and disposal of refrigerant.
- Warning: Keep any required ventilation openings clear of obstruction.
- Notice: Servicing shall be performed only as recommended by the manufacturer.

Unventilated Areas

- WARNING: The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified.
- WARNING: The appliance shall be stored in a room without continuously operating open flames (e.g. an operating gas appliance) and ignition sources (e.g. an operating electric heater).

Qualification of Workers

- Specific information about the required qualification of the working personnel for maintenance, service and repair operations.
- WARNING: Every working procedure that affects safety means shall only be carried out by competent persons. Examples for such working procedures are:
 - Breaking into the refrigerating circuit.
 - Opening of sealed components
 - opening of ventilated enclosures.

Information on Servicing

- Prior to beginning work on systems, safety checks are necessary to ensure that the risk of ignition is minimized.
- Work shall be undertaken under a controlled procedure so as to minimize the risk of flammable gas or vapor being present while the work is being performed.
- Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

Checking for Presence of Refrigerant

- The area shall be checked with an appropriate refrigerant detector prior to and during work. The leak detection equipment should be suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

Presence of Fire Extinguisher

- If any hot work is to be conducted, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO² fire extinguisher adjacent to the charging area.

No Ignition Sources

- All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

Ventilated Area

- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

Checks to the Refrigeration Equipment

- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations

- The charge size is in accordance with the room size within which the refrigerant containing parts are installed;
- The ventilation machinery and outlets are operating adequately and are not obstructed;
- If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
- Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Checks to Electrical Devices

- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.
- Initial safety checks shall include:
 - That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
 - That no live electrical components and wiring are exposed while charging, recovering or purging the system;
 - That there is continuity of earth bonding.

Repairs to Sealed Components

- During repairs to sealed components, all electrical supplies shall be disconnected prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
- Ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected, including damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
- Ensure that the apparatus is mounted securely.
- Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

Repair to Intrinsically Safe Components

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere.
- Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

Cabling

- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

Detection of Flammable Refrigerants Removal and Evacuation

- The refrigerant charge shall be recovered into the correct recovery cylinders and the system shall be “flushed” with OFN to render the unit safe. This process may need to be repeated several times.
- Compressed air or oxygen shall not be used for purging refrigerant systems.
- Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- The vacuum pump is not close to any ignition sources and that ventilation is available.

Charging Procedures

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
- Cylinders shall be kept upright.
- Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the refrigeration system.
- Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak- tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

Decommissioning

- Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail.
- Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant.
- Electrical power must be available before the task is commenced.

- Become familiar with the equipment and its operation.
- Isolate system electrically.
- Before attempting the procedure, ensure that:
 - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - all personal protective equipment is available and being used correctly;
 - the recovery process is supervised at all times by a competent person;
 - recovery equipment and cylinders conform to the appropriate standards.
- Pump down refrigerant system, if possible.
- If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- Make sure that cylinder is situated on the scales before recovery takes place.
- Start the recovery machine and operate in accordance with manufacturer's instructions.
- Do not overfill cylinders. (No more than 80% volume liquid charge).
- Do not exceed the maximum working pressure of the cylinder, even temporarily.
- When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

Labelling

- Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed.
- Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

Recovery

- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.
- Ensure that the correct number of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant).
- Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants.
- A set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release.
- The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged.
- Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.
- The evacuation process shall be carried out prior to returning the compressor to the suppliers.
- Only electric heating to the compressor body shall be employed to accelerate this process.

Part 3 Indoor Units -Low Pressure Slim Duct Type

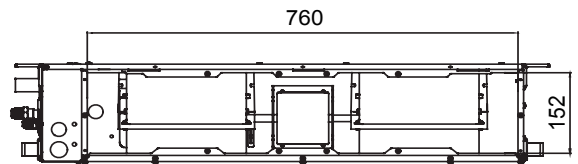
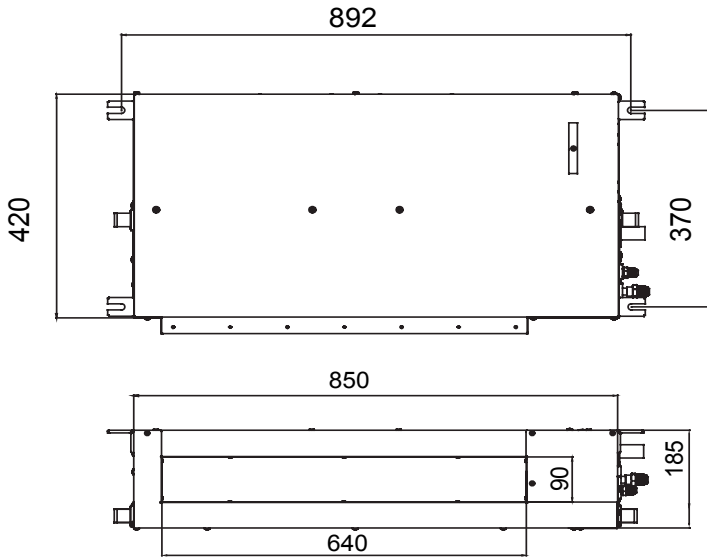
3.1 Specification

TRANE Model			4MXD2309BF0R0AA	4MXD2312BF0R0AA
Power supply		V-ph-Hz	220-1-50(60)	220-1-50(60)
Cooling	Capacity	Btu/h	8,500	12,000
	Capacity	W	2,500	3,500
Heating	Capacity	Btu/h	9,000	12,000
	Capacity	W	2,700	3,500
Indoor fan motor	Model		ZWK511B50502	ZWK511B50502
	Qty		1	1
	Input	W	28	28
	Capacitor	uF	/	/
	Speed(Hi/Med/Lo)	r/min	850/750/650	950/850/750
Indoor coil	Number of rows		2	2
	Tube pitch(a)*row pitch(b)	mm	21x13.3	21x13.3
	Fin spacing	mm	1.4	1.4
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ7,innergroove tube	Φ7,innergroove tube
	Coil length × height × width	mm	640×210×26.6	640×210×26.6
	Number of circuits		10	10
Indoor air flow (Hi/Med/Lo)		m	530/460/390/330	600/480/420/350
ESP	Rated	Pa	0	0
	Range	Pa	0~30	0~30
Indoor noise level (Hi/Med/Lo)		dB(A)	33/30/26	35/32/29
Throttle type			/	/
Indoor unit	Dimension (W×D×H)	mm	850×420×185	850×420×185
	Packing(W×D×H)	mm	1,045×540×270	1,045×540×270
	Net/Gross weight	kg	16/21	16/21
Design pressure		MPa	4.15	4.15
Drainage water pipe diameter		mm	PVC 27/31	PVC 27/31
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ9.52	Φ6.35/Φ9.52
Controller			Wired control	Wired control
Operation temperature		°C	16~30	16~30
Room temperature	Cooling	°C	18~32	18~32
	Heating	°C	15~27	15~27
Qty'per 20' /40' /40'HQ			175/350/395	175/350/395

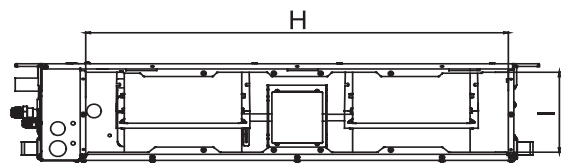
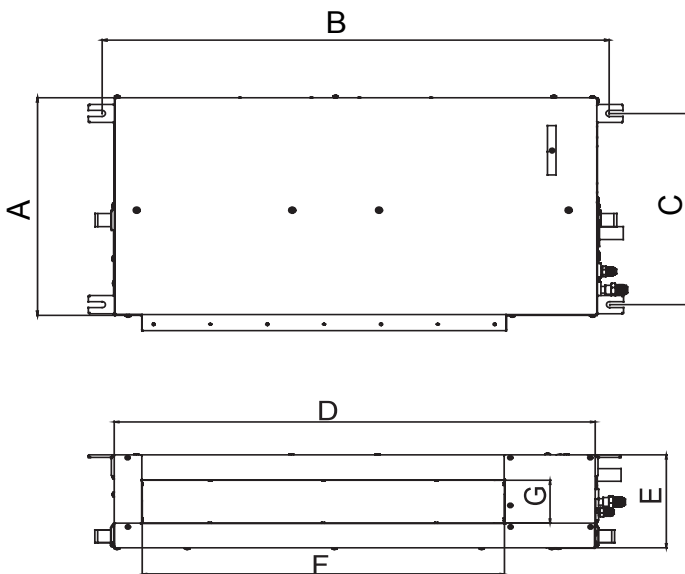
TRANE Model			4MXD2318BF0R0AA	4MXD2324BF0R0AA
Power supply		V-ph-Hz	220-1-50(60)	220-1-50(60)
Cooling	Capacity	Btu/h	17,000	24,000
	Capacity	W	5,000	7,000
Heating	Capacity	Btu/h	18,000	24,000
	Capacity	W	5,300	7,000
Indoor fan motor	Model		ZWK511B50703	ZWK511B50703
	Qty		1	1
	Input	W	55	55
	Capacitor	uF	/	/
	Speed(Hi/Med/Lo)	r/min	900/800/700	1,250/1,100/1,000
Indoor coil	Number of rows		2	3
	Tube pitch(a)×row pitch(b)	mm	21×13.3	21×13.3
	Fin spacing	mm	1.4	1.4
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ7,innergroove tube	Φ7,innergroove tube
	Coil length × height × width	mm	960×210×26.6	640×210×39.9
	Number of circuits		10	15
Indoor air flow (Hi/Med/Lo)		m	900/780/660/540	1,000/950/850/700
ESP	Rated	Pa	0	0
	Range	Pa	0~50	0~50
Indoor noise level (Hi/Med/Lo)		dB(A)	36/34/32	38/35/33
Throttle type			/	/
Indoor unit	Dimension (W×D×H)	mm	1,170×420×185	1,170×420×185
	Packing(W×D×H)	mm	1,365×540×270	1,365×540×270
	Net/Gross weight	kg	22/28	24/30
Design pressure		MPa	4.15	4.15
Drainage water pipe diameter		mm	PVC 27/31	PVC 27/31
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ9.52/Φ15.88
Controller			Wired control	Wired control
Operation temperature		°C	16~30	16~30
Room temperature	Cooling	°C	18~32	18~32
	Heating	°C	15~27	15~27
Qty'per 20' /40' /40'HQ			125/260/290	125/260/290

3.2 Dimension

4MXD2309BF0R0AA 4MXD2312BF0R0AA



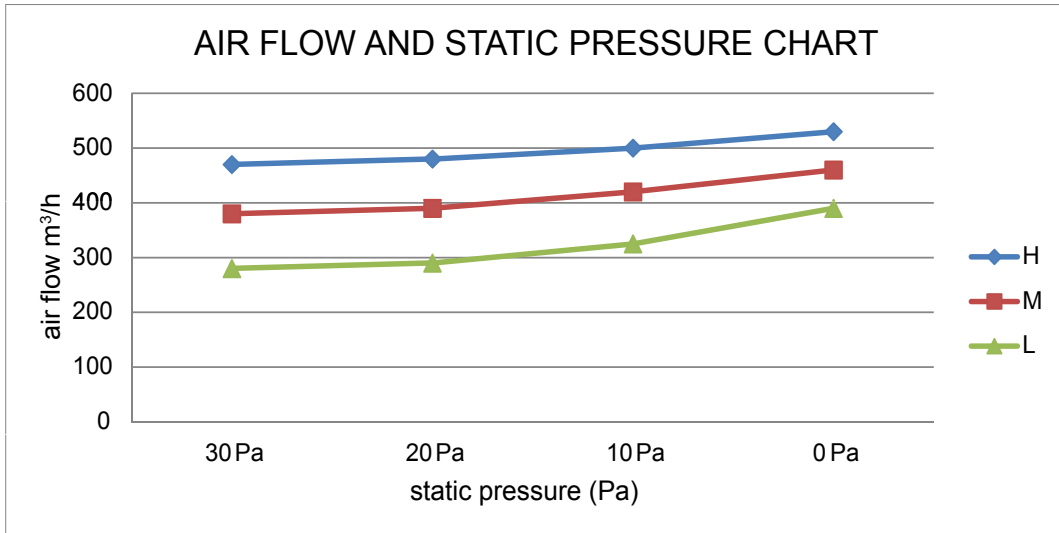
4MXD2318BF0R0AA 4MXD2324BF0R0AA



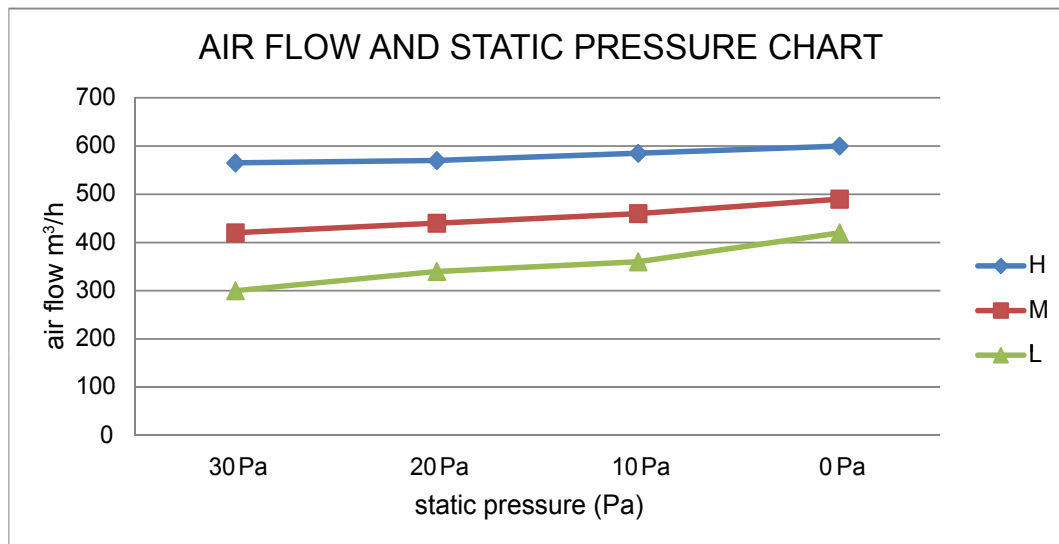
Unit Model	A	B	C	D	E	F	G	H	I
4MXD2318BF0R0AA 4MXD2324BF0R0AA	420	1212	370	1170	185	960	90	1080	152

3.4 Airflow and Static Pressure Chart

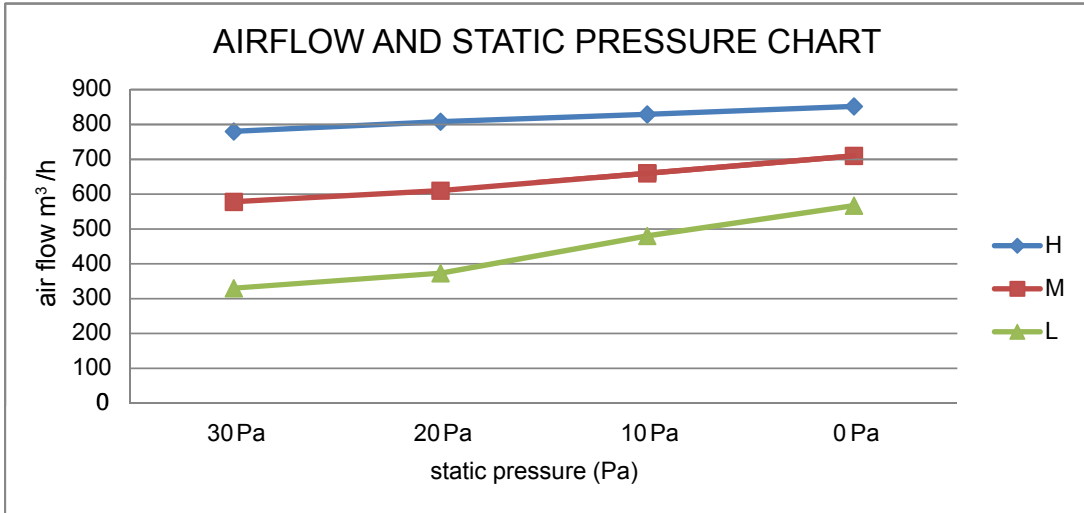
4MXD2309BF0R0AA



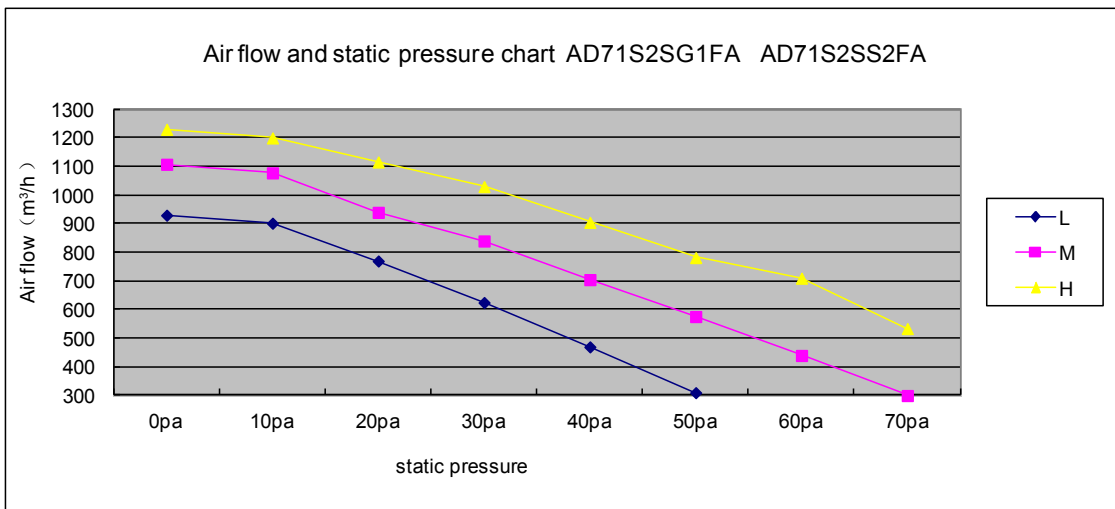
4MXD2312BF0R0AA



AD50S2SS21FA



4MXD2324BF0R0AA



3.5 Installation

4MXD2309BF0R0AA 4MXD2312BF0R0AA 4MXD2318BF0R0AA 4MXD2324BF0R0AA

The Machine Is Adaptive In Following Situation

1. Applicable ambient temperature range:

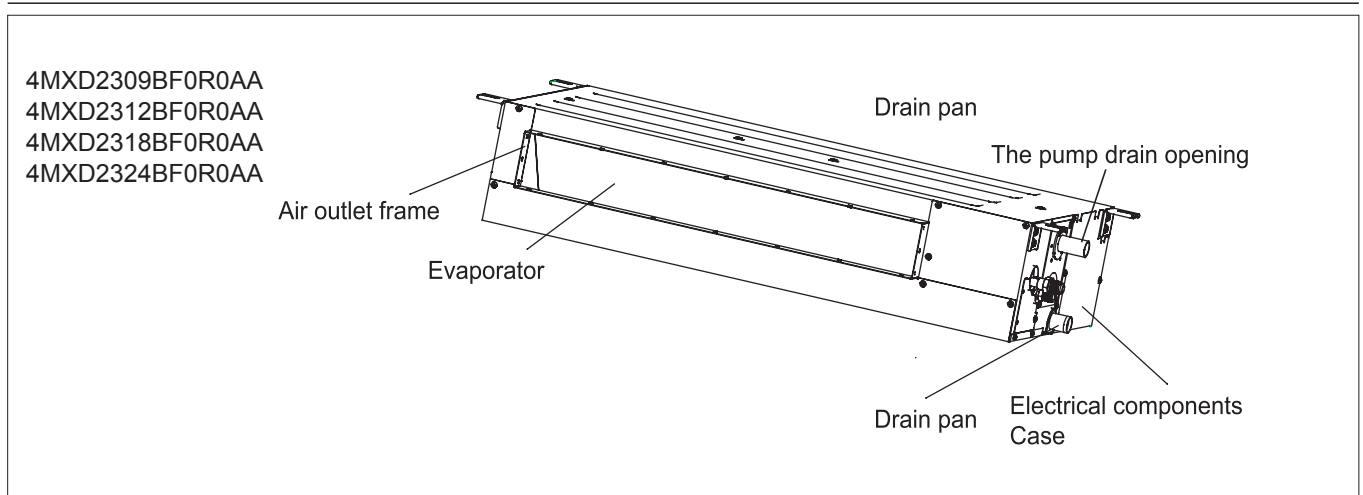
Cooling	Heating	Max. DB/WB	32/23 °C
		Min. DB/WB	18/14 °C
Heating	Outdoor Temperature	Max. DB/WB	46/24 °C
		Min. DB/WB	18 °C
	Indoor Temperature	Max. DB/WB	27 °C
		Min. DB/WB	15 °C
Outdoor Temperature	Max. DB/WB	24/18 °C	
	Min. DB/WB	15 °C	

2. If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similar qualified person.
3. If the fuse on PC board is broken please change it with the type of T3.15A /250VAC.
4. The wiring method should be in line with the local wiring standard.
5. The breaker of the air conditioner should be all pole switch, and the distance between its two contacts should be no less than 3mm. Such means for disconnection must be incorporation in the fixed wiring.
6. The installation height of the indoor unit is recommended from 2.5m to 2.7m.
7. The distance between its two terminal blocks of indoor unit and outdoor unit should not be over 5m. If exceeded, the diameter of the wire should be enlarged according to the local wiring standard.
8. The waste battery shall be disposed properly.
9. We can get the 4 different ESP through adjust the indoor unit PCB SW1 4 and SW1 5, please refer below:

SW01								Static Pressure
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
			0	0				0Pa
			0	1				10Pa
			1	0				20Pa
			1	1				30Pa

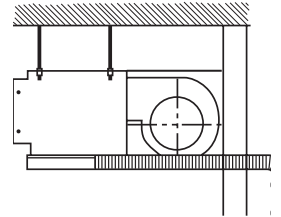
Attention: Cut off the power supply to adjust the SW14, and SW15, or else the operation is invalid.

Parts and Functions



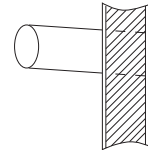
Selecting the Mounting Position to Install the Indoor Units

- Select suitable places where the outlet air can be sent to the entire room, and convenient to lay out the connection pipe, connection wire and the drainage pipe to outdoor.
- The ceiling structure must be strong enough to support the unit weight.
- The connecting pipe, drain pipe and connection wire shall be able to go through the building wall to connect between the indoor and outdoor units.
- The connecting pipe between the indoor and outdoor units as well as the drain pipe shall be as short as possible.
- If it is necessary to adjust the filling amount of the refrigerant, please refer to the installation manual attached with the outdoor unit.
- The connecting flange should be provided by the user himself.
- The indoor unit has two water outlets one of which is obstructed at the factory (with a rubber cap).
- Only the outlet not obstructed (liquid inlet and outlet side) will be generally used during installation. If applicable, both the outlets should be used together.
- An access port must be provided during installation of indoor unit for maintenance.



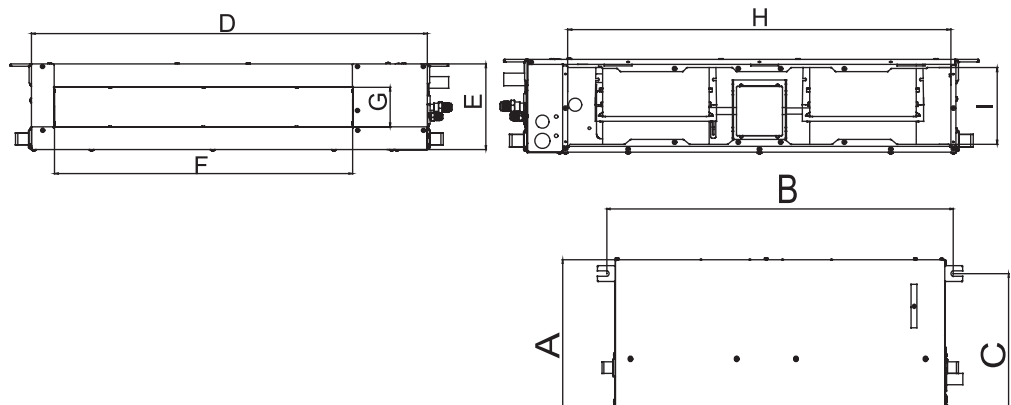
After Selecting The Unit Installation Location, Proceed The Following Steps:

1. Drill a hole in the wall and insert the connecting pipe and wire through a PVC wall-through tube purchased locally. The wall hole shall be with a outward down slope of at least 1/100.
2. Before drilling check that there is no pipe or reinforcing bar just behind the drilling position. drilling shall avoid at positions with electric wire or pipe.
3. Mount the unit on a strong and horizontal building roof. If the base is not firm, it will cause noise, vibration or leakage.
4. Support the unit firmly.
5. Change the form of the connection pipe, connection wire and drain pipe so that they can go through the wall hole easily.



Installation Dimension

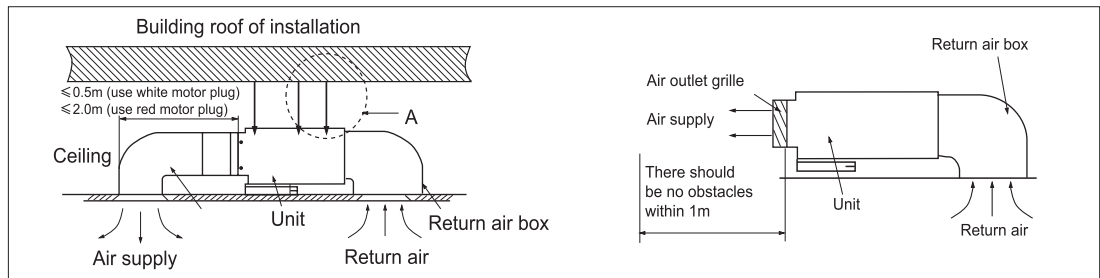
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 4MXD2312BF0R0AA
 4MXD2318BF0R0AA
 4MXD2324BF0R0AA



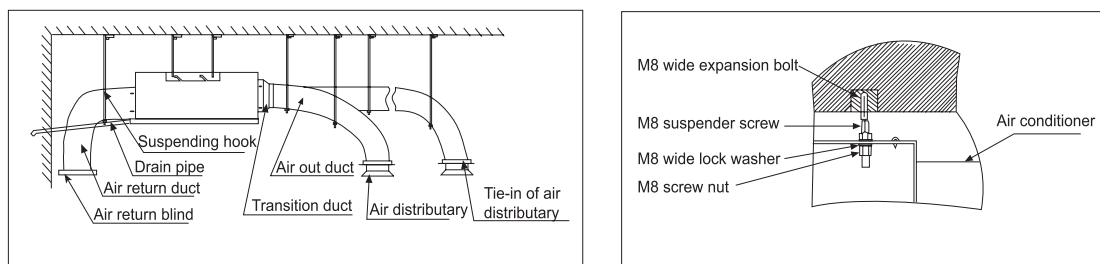
Indoor Unit Dimensions (Unit:mm)

Unit Model	A	B	C	D	E	F	G	H	I
4MXD2309BF0R0AA	420	892	370	850	185	640	90	760	152
4MXD2312BF0R0AA	420	1212	370	1170	185	960	90	1080	152

- Each of the air sending duct and air return duct shall be fixed on the prefabricated panel of the floor by the iron bracket. The recommended distance between the edge of the air return duct and the wall is over 150mm.
- The gradient of the condensate water pipe shall keep over 1%.
- The condensate water pipe shall be thermal insulated.
- When installing the ceiling Concealed type indoor unit, the air return duct must be designed and installed as figure shown

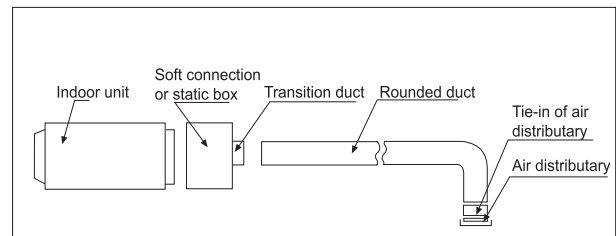


The sketch map of long duct



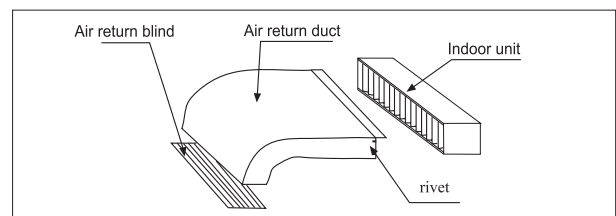
1. Installation of Air sending duct

- This unit uses rounded duct, the diameter of the duct is 180mm.
- The rounded duct needs to add a transition duct to connect with the air-sending duct of indoor unit, then connect with respective separator. As Figure shown, all the fan speed of any of the separator's air outlet shall be adjusted approximately the same to meet the requirement for the room air conditioner.



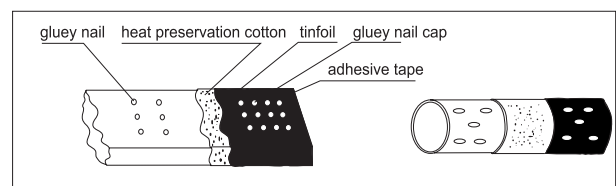
2. Installation of Air Return Duct

- Use rivet to connect the air return duct on the air return inlet of the indoor unit, then connect the other end with the air return blind as figure shown.



3. Thermal Insulation of Duct

- Air-sending duct and air return duct shall be thermally insulated. First stick the gluey nail on the duct, then attach the heat preservation cotton with a layer of tinfoil paper and use the gluey nail cap to fix. Finally use the tinfoil adhesive tape to seal the connected part. As figure shown.



Installing the Suspension Screw

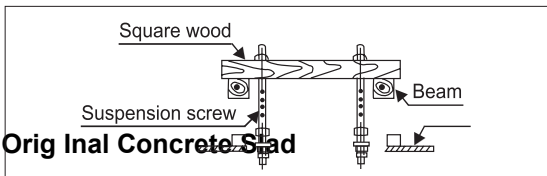
Use M8 or M10 suspension screws (4, prepared in the field) (When the suspension screw height exceeds 0.9m, M10 size is the only choice). These screws shall be installed as follows with space adapting to air conditioner overall dimensions according to the original building structures.

Wooden Structure

A square wood shall be supported by the beams and then set the suspension screws.

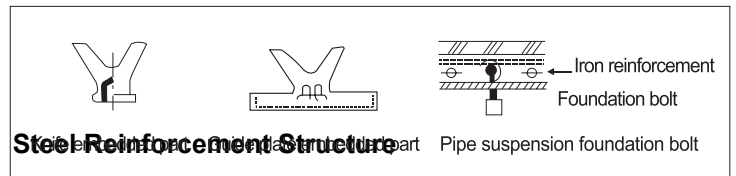
New Concrete Lab

To set with embedded parts, foundation bolts etc.



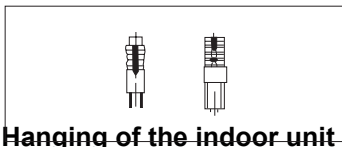
Original Concrete Slab

Use hole hinge, hole plunger or hole bolt



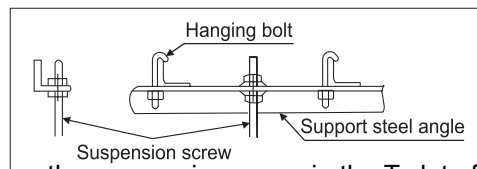
Steel Reinforcement Structure

Use steel angle or new support steel angle directly



Hanging of the indoor unit

- Fasten the nut on the suspension screw and then hang the suspension screw in the T slot of the suspension part of the unit.
- Aided with a level meter, adjust level of the unit within 5mm



⚠ CAUTION

- In installation, if there is refrigerant gas leakage, please take ventilation measures immediately. The refrigerant gas will generate poisonous gas upon contacting fire.
- After installation, please verify that there is no refrigerant leakage. The leaked refrigerant gas will produce poisonous gas when meeting fire source such as heater and furnace etc.

Model	Gas Side	Liquid Side
4MXD2309BF0R0AA	φ9.52	φ6.35
4MXD2312BF0R0AA		
4MXD2318BF0R0AA	φ12.7	φ6.35
4MXD2324BF0R0AA	φ15.88	φ9.52

Pipe Material

Phosphorus deoxidized copper seamless pipe (TP2M) for air conditioner.

Allowable Pipe Length and Drop

These parameters differ according to the outdoor unit. See the instruction manual attached with the outdoor unit for details.

Supplementary Refrigerant

The refrigerant supplementation shall be as specified in the installation instructions attached with the outdoor unit. The adding procedure shall be aided with a measuring meter for a specified amount of supplemented refrigerant.

Note:

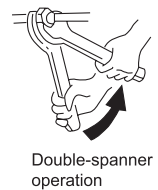
Over filling or underfilling of refrigerant will cause compressor fault. The amount of the added refrigerant shall be as specified in the instructions.

Connecting	Installing Torque (N-m)
φ6.35	11.8 (1.2 kgf-m)
φ9.52	24.5 (2.5 kgf-m)
φ12.7	49.0 (5.0 kgf-m)
φ15.88	78.4 (8.0 kgf-m)

Connection of Refrigerant Pipe

Conduct flared connection work to connect all refrigerant pipes.

- The connection of indoor unit pipes must use double spanners.
- The installing torque shall be as given in the following table.
- Wall thick ness of connection pipe ≥ 0.8mm



Creating Vacuum

With a vacuum pump, create vacuum from the stop valve of the outdoor unit. Emptying with refrigerant sealed in the outdoor unit is absolutely forbidden.

Open All Valves

Open all the valves on the outdoor unit.

Gas Leakage Detection

Check with a leakage detector or soap water if there is gas leakage at the pipe connections and bonnets.

Insulation Treatment

Conduct insulation treatment on both the gas side and liquid side of pipes respectively.

During cooling operation, both the liquid and gas sides are cold and thus shall be insulated so as to avoid dew generation.

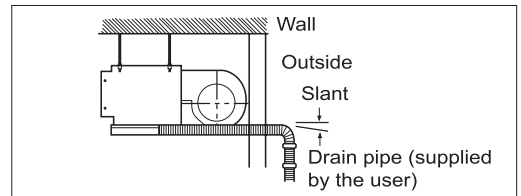
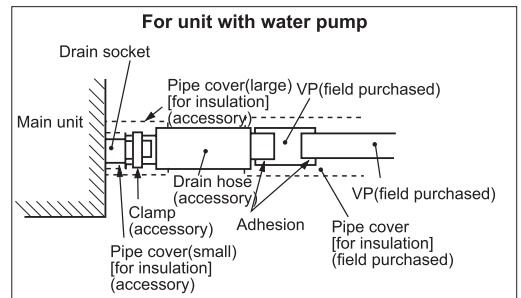
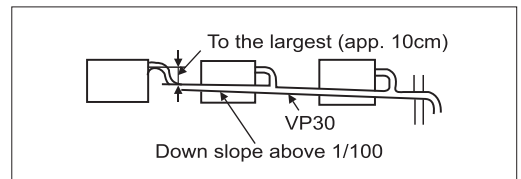
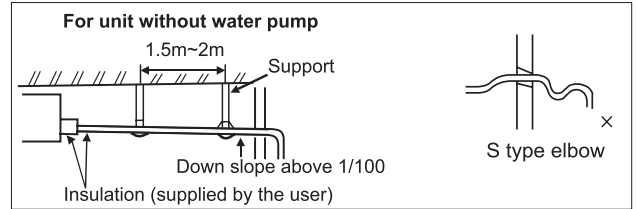
- The insulating material at gas side shall be resistant to a temperature above 120°C
- The indoor unit pipe connection part shall be insulated.

⚠ CAUTION

In order to drain water normally, the drain pipe shall be processed as specified in the installation manual and shall be thermal insulated to avoid dew generation. Improper hose connection may cause indoor water leakage.

Requirements

- The indoor drain pipe shall be thermal insulated.
- The connection part between the drain pipe and the indoor unit shall be insulated so as to prevent dew generation.
- The drain pipe shall be slant downwards (greater than 1/100). The middle part shall not be of stype elbow, otherwise abnormal sound will be produced.
- The horizontal length of the drain pipe shall be less than 20m. In case of long pipe, supports shall be provided every 1.5-2m to prevent wavy form.
- Central piping shall be laid out according to the right figure.
- Take care not to apply external force onto the drain pipe connection part.
- For unit with water pump drain pipe use hard PVC general purpose pipe VP which can be purchased locally. When connecting, insert a PVC pipe end securely into the drain socket before tightening securely using the attached drain hose and clamp. Adhesive must not be used for connection of the drain socket and drain hose (accessory).



Pipe and Insulation Material

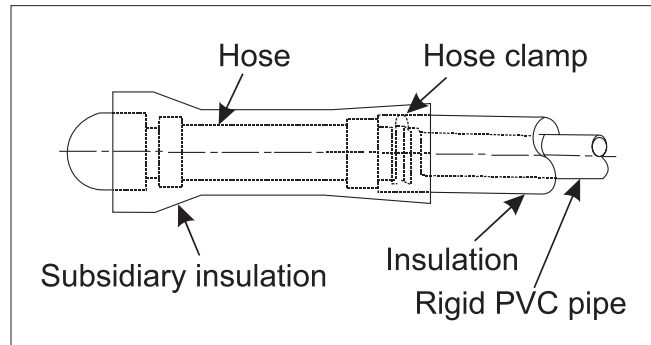
Pipe	Rigid PVC Pipe VP20 mm (Internal Diameter)
Insulation	Foamed PE with Thickness Above 7 mm

Hose

Drain pipe size: (3/4) PVC pipe

The hose is used for adjusting the off-center and angle of the rigid PVC pipe.

- Directly stretch the hose to install without making any deformation.
- The soft end of the hose must be fastened with a hose clamp.
- Please apply the hose on horizontal part Insulation treatment.
- Wrap the hose and its clamp up to the indoor unit without any clearance with insulating material, as shown in the figure.



Drain Confirmation

During trial run, check that there is no leakage at the pipe connection part during water draining even in winter.

⚠ WARNING

Danger of Bodily Injury or Death

Turn off electric power at circuit breaker or power source before making any electric connections. Ground connections must be completed before making line voltage connections.

Precautions for Electrical Wiring

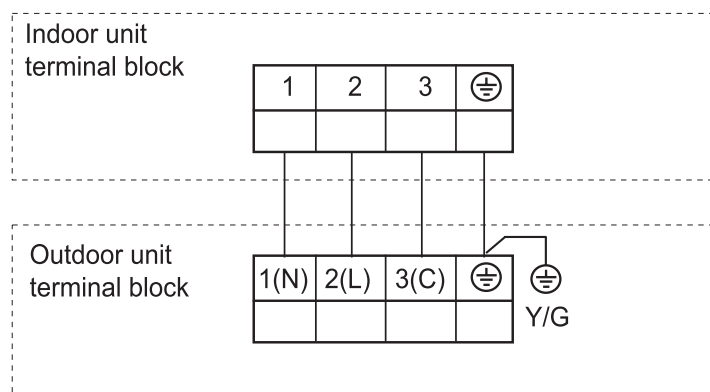
- Electrical wiring work should be conducted only by authorized personnel.
- Do not connect more than three wires to the terminal block. Always use round type crimped terminal lugs with insulated grip on the ends of the wires.
- Use copper conductor only.

Wiring Connection

Make wiring to supply power to the outdoor unit, so that the power for the indoor unit is supplied by terminals.

The specification of power cable is HO5RN-F3G 4.0mm².

The specification of cable between indoor unit to outdoor unit is HO5RN-F4G 2.5mm².



- The installation of pipe-work shall be kept to a minimum.
- Pipe-work shall be protected from physical damage and shall not be installed in an unventilated space, if that space is smaller than Amin (2m²).
- Compliance with national gas regulations shall be observed.
- Mechanical connections shall be accessible for maintenance purposes.
- The minimum floor area of the room: 2m².
- The maximum refrigerant charge amount: 1.7 kg.
- Information for handling, installation, cleaning, servicing and disposal of refrigerant.
- WARNING: Keep any required ventilation openings clear of obstruction.
- Notice: Servicing shall be performed only as recommended by the manufacturer.

Unventilated Areas

- WARNING: The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified.
- WARNING: The appliance shall be stored in a room without continuously operating open flames (e.g.an operating gas appliance) and ignition sources (e.g.an operating electric heater).

Qualification of Workers

- Specific information about the required qualification of the working personnel for maintenance, service and repair operations.
- WARNING: Every working procedure that affects safety means shall only be carried out by competent persons
Examples for such working procedures are:
 - Breaking into the refrigerating circuit.
 - Opening of sealed components
 - Opening of ventilated enclosures.

Information on Servicing

- Prior to beginning work on systems, safety checks are necessary to ensure that the risk of ignition is minimized.
- Work shall be undertaken under a controlled procedure so as to minimized the risk of flammable gas or vapor being present while the work is being performed.
- Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

Checking for Presence of Refrigerant

- The area shall be checked with an appropriate refrigerant detector prior to and during work. The leak detection equipment should be suitable for use with all applicable refrigerants, i.e.non-sparking, adequately sealed or intrinsically safe.

Presence of Fire Extinguisher

- If any hot work is to be conducted, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO² fire extinguisher adjacent to the charging area.

No Ignition Sources

- All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

Ventilated Area

- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

Checks to the Refrigeration Equipment

- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.

The Following Checks Shall be Applied to Installations

- The charge size is in accordance with the room size within which the refrigerant containing parts are installed;
- The ventilation machinery and outlets are operating adequately and are not obstructed;
- If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
- Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- Refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

Checks to Electrical Devices

- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

- Initial safety checks shall include:

- That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- That no live electrical components and wiring are exposed while charging, recovering or purging the system;
- That there is continuity of earth bonding.

Repairs to Sealed Components

- During repairs to sealed components, all electrical supplies shall be disconnected prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
- Ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected, including damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
- Ensure that the apparatus is mounted securely.
- Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

Repair to Intrinsically Safe Components

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere.
- Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

Cabling

- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

Detection of Flammable Refrigerants Removal and Evacuation

- The refrigerant charge shall be recovered into the correct recovery cylinders and the system shall be “flushed” with OFN to render the unit safe. This process may need to be repeated several times.
- Compressed air or oxygen shall not be used for purging refrigerant systems.
- Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- The vacuum pump is not close to any ignition sources and that ventilation is available.

Charging Procedures

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimise the amount of refrigerant contained in them.
- Cylinders shall be kept upright.
- Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the refrigeration system.
- Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

Decommissioning

- Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail.
- Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant.
- Electrical power must be available before the task is commenced.

- Become familiar with the equipment and its operation.
- Isolate system electrically.
- Before attempting the procedure, ensure that:
 - Mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - All personal protective equipment is available and being used correctly;
 - The recovery process is supervised at all times by a competent person;
 - Recovery equipment and cylinders conform to the appropriate standards.

- Pump down refrigerant system, if possible.
- If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- Make sure that cylinder is situated on the scales before recovery takes place.
- Start the recovery machine and operate in accordance with manufacturer's instructions.
- Do not overfill cylinders. (No more than 80% volume liquid charge).
- Do not exceed the maximum working pressure of the cylinder, even temporarily.
- When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

Labelling

- Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed.
- Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

Recovery

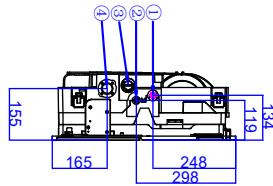
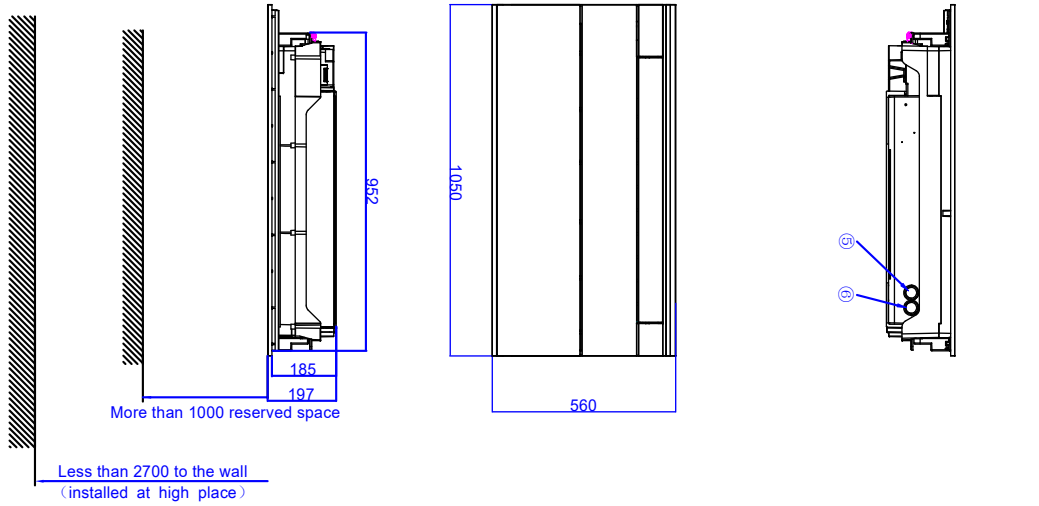
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.
- Ensure that the correct number of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant).
- Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants.
- A set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release.
- The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged.
- Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.
- The evacuation process shall be carried out prior to returning the compressor to the suppliers.
- Only electric heating to the compressor body shall be employed to accelerate this process.

Part 4 Indoor Units - One way Cassette

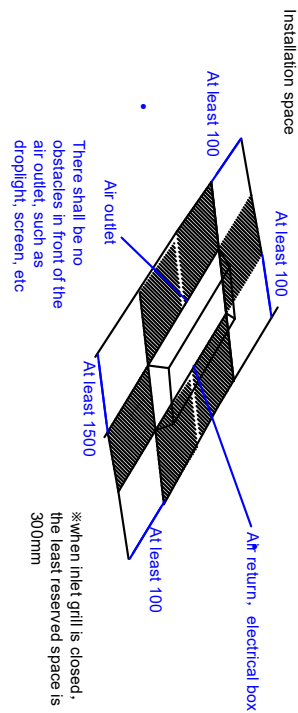
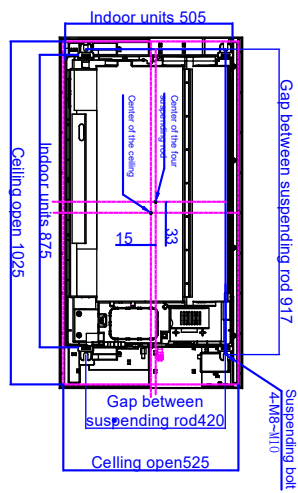
4.1 Specification

TRANE Model		IDU	4MXE2309BF0W0AA	4MXE2312BF0W0AA
		Panel	4MXM2312BF0W0AA	4MXM2312BF0W0AA
Power supply		V-ph-Hz	220-1-50(60)	220-1-50(60)
Cooling	Capacity	Btu/h	8,500	12,000
	Capacity	W	2,500	3,500
Heating	Capacity	Btu/h	9,000	12,000
	Capacity	W	2,700	3,500
Indoor fan motor	Model		ZWK465B500015	ZWK465B500015
	Qty		1	1
	Input	W	88	88
	Capacitor	uF	/	/
	Speed(Hi/Med/Lo)	r/min	870/800/700/600/550	950/870/800/700/600
Indoor coil	Number of rows		2	2
	Tube pitch(a)x row pitch(b)	mm	21×13.3	21×13.3
	Fin spacing	mm	1.4	1.4
	Fin type		Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ7	Φ7
	Coil length × height × width	mm	675×168×13.3& 675×84×13.3	675×168×13.3& 675×84×13.3
	Number of circuits		12	12
Indoor air flow (Hi/Med/Lo)		m ³ /h	500/460/420	530/500/460
Indoor noise level (sound pressure) (Hi/Med/Lo)		dB(A)	34/30/26	36/32/28
Throttle type			/	/
Indoor unit	Dimension (W × D × H) (body)	mm	875×505×185	875×505×185
	Packing (W × D × H) (body)	mm	1,028×581×270	1,028×581×270
	Dimension (W × D × H) (panel)	mm	1,050×560×122	1,050×560×122
	Packing (W × D × H) (panel)	mm	1,133×623×197	1,133×623×197
	Net/Gross weight (body)	kg	15.3/17.9	15.3/17.9
	Net/Gross weight (panel)	kg	5.3/8.3	5.3/8.3
Design pressure		MPa	4.15	4.15
Drainage water pipe diameter		mm	Φ32	Φ32
Refrigerant piping	Liquid side/Gas side	mm (inch)	Φ6.35/Φ9.52	Φ6.35/Φ9.52
Controller			Remote control	Remote control
Operation temperature		°C	16~30	16~30
Room temperature	Cooling	°C	18~32	18~32
	Heating	°C	15~27	15~27
Qty'per 20' /40' /40'HQ (indoor unit)			100/200/230	100/200/230

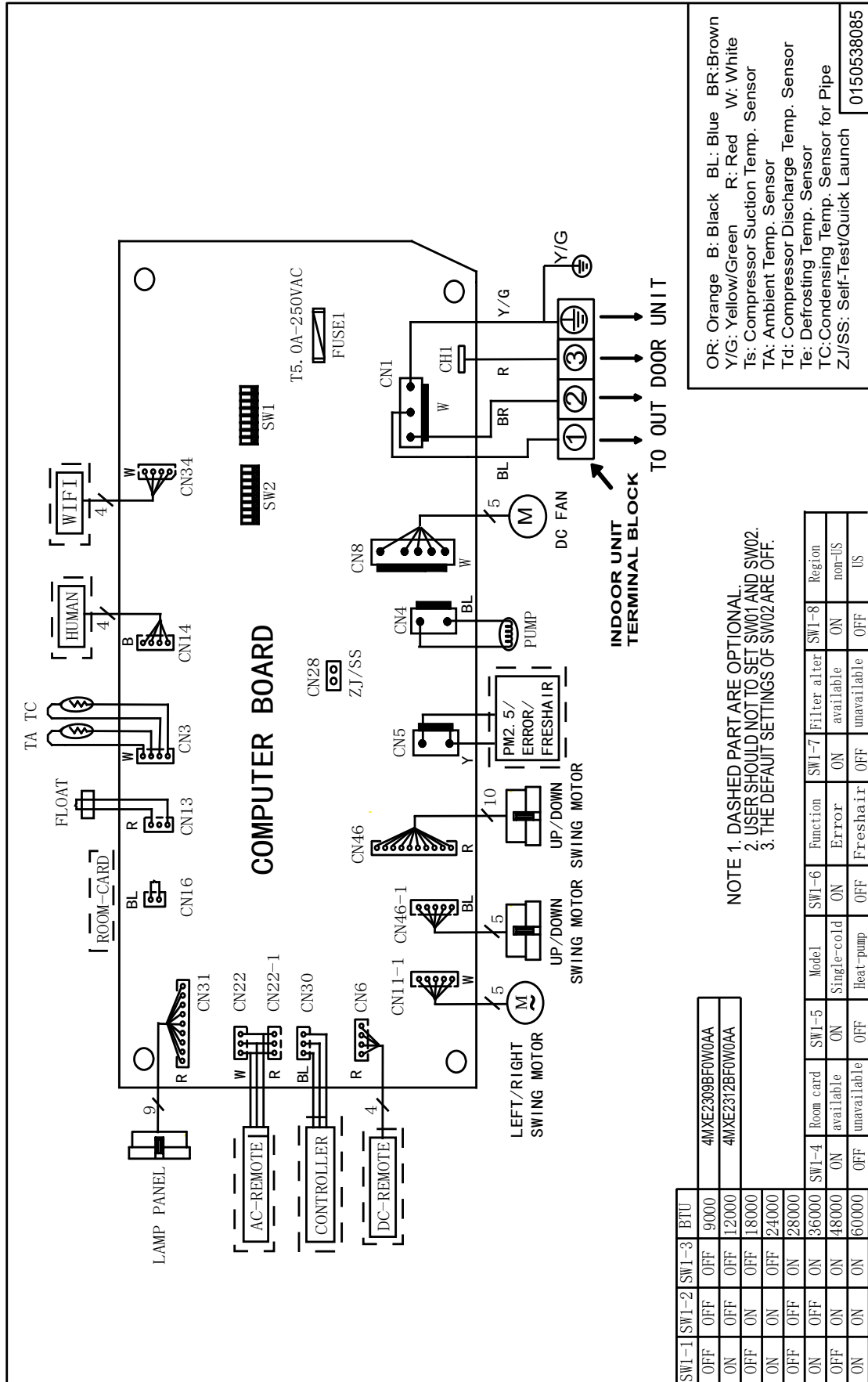
4.2 Dimension



SN	Part Name
1	Gas pipe
2	Liquid pipe
3	Water filling hole
4	Drain pipe
5	Power supply
6	Communication wire



4.3 Wiring Diagram



4.4 Installation

Your air conditioner may be subject to any change owing to the improvement of Haier products.

MRV series multiple air conditioning systems adopt the consistent running mode, by which, all indoor units can only be heating or refrigerating operation at the same time.

To protect the compressor, the air conditioning unit should be powered on for over 12 hours before using it.

All indoor units of the same refrigerating system should use the unified power switch to ensure that all indoor units are in the state of being powered on at the same time during the operation of air conditioner.

Product Features:

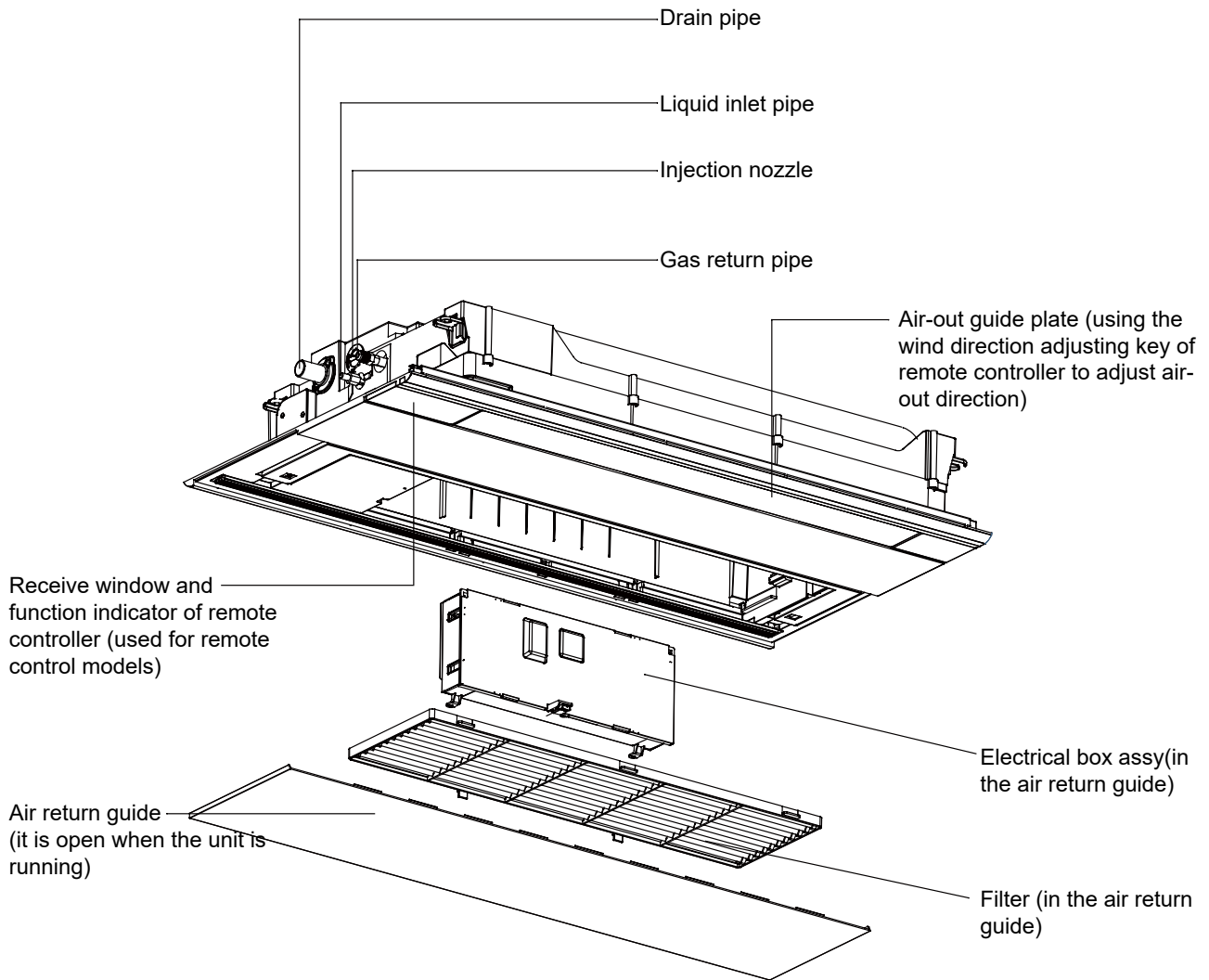
1. Hanging-style installation to save space;
2. Automatic display of faults;
3. Function of central control (optional from our company).
4. The air conditioner is provided with the function of compensation for power supply. During operation, when the power supply fails emergently and resumes again, the air conditioner returns to the working condition before power failure, if provided with compensation function.
5. The operating methods and functions are same although the shapes of indoor units are different.
6. Now this indoor unit only has wired controller function, the indoor unit that has remote controller function need to set in factory especially.

Warning

- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
- The appliances are not intended to be operated by means of an external timer or separate remote-control system.
- Keep the appliance and its cord out of reach of children less than 8 years.

Cooling	Indoor temperature	max. DB/WB min. DB/WB	32/23°C 18/14°C
	Outdoor temperature	max. DB/WB min. DB/WB	46/26°C 10/6°C
Heating	Indoor temperature	max. DB/WB min. DB/WB	27°C 15°C
	Outdoor temperature	max. DB/WB min. DB/WB	24/18°C -15°C

4.4.1 Parts and Functions



4.4.2 Safety

- If the air conditioner is transferred to a new user, this manual shall be transferred to the user, together with the conditioner.
- Before installation, be sure to read Safety Considerations in this manual for proper installation.
- The safety considerations stated below is divided into " Warning" and " Attention". The matters on severe accidents caused from wrong installation, which is likely to lead to death or serious injury, are listed in " Warning". However, the matters listed in " Attention" are also likely cause the severe accidents. In general, both of them are the important items related to the security, which should be strictly abided by.
- After the installation, perform test run to make sure everything is in normal conditions, and then operate and maintain the air conditioner in accordance with the User Manual. The User Manual should be delivered to the user for proper keeping.
- Haier is not responsible for any personnel damage or equipment damage caused by improper installation, improper commissioning, unnecessary maintenance and the wrong operation which violates the instructions in this manual or industry specifications and standards.
















WARNING

- Please ask the special maintenance station for installation and repair. Water leakage, electric shocks or fire accidents might be caused from improper installation if you conduct the installation by your own.
- The installation should be conducted properly according to this manual. Water leakage, electric shocks or fire accidents might be caused from improper installation.
- Please make sure to install the air conditioner on the place where can bear the weight of the air conditioner. The air conditioner can't be installed on the grids such as the non-special metal burglar-proof net. The place with insufficient support strength might cause the dropdown of the machine, which may lead to personal injuries.
- The installation should be ensured against typhoons and earthquakes, etc. The installation unconformable to the requirements will lead to accidents due to the turnover of the machine.
- Specific cables should be used for reliable connections of the wirings. Please fix the terminal connections reliably to avoid the outside force applied on the cables from being impressed on the cables. Improper connections and fixings might lead to such accidents as heating or fire accidents.
- Correct shapes of wirings should be kept while the embossed shape is not allowed. The wirings should be reliably connected to avoid the cover and the plate of the electrical cabinet lipping the wiring. Improper installation might cause such accidents as heating or fire accidents.
- While placing or reinstalling the air conditioner, except the specific refrigerant (R410A), don't let the air go into the refrigeration cycle system. The air in the refrigeration cycle system might lead to the cracking or personal injuries due to abnormal high pressure of the refrigeration cycle system.
- During installation, please use the accompanied spare parts or specific parts. If not, water leakage, electric shocks, fire accidents or refrigerant leakage might be caused.



- Don't drain the water from the drainpipe to the waterspout where may exist harmful gases such as sulfured gas to avoid the harmful gases entering into the room.
- During installation, if refrigerant leakage occurs, ventilation measures should be taken, for the refrigerant gas might generate harmful gases upon contacting the flame.
- After installation, check if any refrigerant leakage exists. If the refrigerant gas leaks in the room, such things as air blowing heaters and stoves, etc. may generate harmful gases.
- Don't install the air conditioner at the places where the flammable gases may leak. In case the gas leakage occurs around the machine, such accidents as fire disasters may be caused.
- When installed in a smaller room, the appropriate measures must be taken to prevent the refrigerant concentration from exceeding the limit. Please contact the sales agent to contact the corresponding measures.
- Be sure to use a separate circuit to supply power. All the electrical work must be executed by the professional electrician, meanwhile met local laws and regulations and the instructions.
- The current-carrying conductor should be tightened before grounding the wire.
- Please turn off the power before touching the electronic parts.
- Do not touch the switch with wet hands to prevent electric shock.
- Please connect the remote control cable and the connection cable to no noise.

**CAUTION**

- The drainpipe should be properly mounted according to this manual as to ensure the smooth drainage. In addition, heat preservation should be taken to avoid condensation. Improper drainpipe mounting might cause water leakage, which will get the articles at home wet.
- The refrigerant gas pipe and liquid pipe should be heat insulated to preserve heat. For inappropriate heat insulation, the water caused from the condensation will drop to get the article at home wet.
- The air conditioner should be effectively grounded. Electric shocks may occur if the air conditioner is ungrounded or inappropriately grounded. The wire for earthing shouldn't be connected to the connections on the gas pipe, water pipe, lightning rod or telephone.
- The breaker for electricity leakage should be mounted. If not, accidents such as electric shocks may happen.
- The installed air conditioner should be checked for electricity leakage by being powered.
- When install the remote controller, if the room has a fluorescent lamp (inverter controller or quick start mode), the signal transmission distance of the remote controller will be shortened. Please try to install the indoor unit away from the fluorescent lamp.
- If the ambient humidity bigger than 80%, when the water discharge hole be blocked or the filter becomes dirty, or airflow speed change, there maybe leads to condensing water drop down, and at the same time there maybe some drops of water spit out.

Notices during Operation	
<ul style="list-style-type: none"> • If abnormal phenomena (such as the smell of fire), please cut off the power immediately and contact after-sales service personnel. In this case if you continue to use the air conditioning, it will be damaged and also may cause electric shock or fire accident. 	
<ul style="list-style-type: none"> • When remove, transfer or repair air conditioning, please contact with the after-sales service personnel. Improper maintenance may cause leakage, electric shock and fire hazard. 	
<ul style="list-style-type: none"> • Be sure to install a leakage circuit breaker and ground connection must be effective. The grounding wire can not be connected to the gas pipeline, water pipe, lightning rod or telephone ground line. Poor ground wire may cause electric shock. 	
<ul style="list-style-type: none"> • It cannot be used for the preservation of food, living creature, precise instrument and artworks, etc, otherwise damage may occur. 	
<ul style="list-style-type: none"> • It is not allowed to put any heating apparatus under the indoor units, for the heat may cause distortion of the units. 	 
<ul style="list-style-type: none"> • Flammable apparatus should not be placed in the place where the air conditioner wind could reach directly, or incomplete burning of the apparatus may be caused. 	 
<ul style="list-style-type: none"> • Do not touch the switch with the wet hand to avoid power shock. 	
<ul style="list-style-type: none"> • Cleaning the unit with water may cause electric shock. 	 
<ul style="list-style-type: none"> • Do not use water heater or like next to the indoor unit and the wired controller. Water/power leakage or short circuit may happen if the steam generating apparatus is working next to machine. 	
<ul style="list-style-type: none"> • Stop running and switch off the manual power switch when cleaning the unit. 	
<ul style="list-style-type: none"> • Check the mount table of the air conditioner for damage for a long period of operation. If placed on the damaged table, the unit may drop down causing damage. 	
<ul style="list-style-type: none"> • After the electrical installation, should be energized for leakage detection. When thunder, please power off and unplug the power plug. Lightning shock may cause malfunction. 	
<ul style="list-style-type: none"> • Do not install the air conditioner in where the flammable gas may leak, to avoid fire hazard caused by gas leakage. 	
<ul style="list-style-type: none"> • Do not put flammable spray close to the air conditioner. Don't inject flammable spray towards the air conditioner, which may cause fire. 	
<ul style="list-style-type: none"> • Close the window to avoid outdoor air getting in. Curtains or window shutters can be put down to avoid the sunshine. 	
<ul style="list-style-type: none"> • Avoid the cold air blowing the body straightly for long time; Avoid setting the indoor temperature too low. Otherwise it may cause uncomfortable feel and be harmful to health. 	
<ul style="list-style-type: none"> • Do not run air conditioning when using smoked insecticide in the room. Otherwise the chemical substance may remain on the product which might endanger the health of highly allergic people. 	
<ul style="list-style-type: none"> • Cleaning of the air filter regularly, if the filter is blocked, it will cause the cooling and heating effect poor, power consumption increased, unit malfunction and cooling operation will drip. 	
<ul style="list-style-type: none"> • Power should be cut off when the air conditioner is left unused for a long period. Power will be consumed if the air conditioner is not powered off. The power switch of the outdoor unit switch should be powered on 12 hours in advance before operation to protect the unit after a long period of storage. 	

Notices during Operation

- The room should be ventilated regularly. After the use of air conditioning in the room for a long time, be sure to ventilate, to prevent air circulation does not cause physical discomfort.
- During the operation of the control unit, don't switch off the manual power switch and the controller can be used. Please do not press the liquid crystal zone of controller to prevent damage. 
- Valuables and goods that must be kept dry can not be placed under the indoor unit. When the humidity exceeds 80% or the drain outlet is blocked, the indoor unit may drip and damage the goods.
- Plants and animals should not be put to the place where wind of the air conditioner blows directly, otherwise damage to them may be caused. 
- It cannot be used for the preservation of food, living creature, precise instrument and artworks, etc, otherwise damage may occur.
- The distance between TV, radio, audio and other equipments and indoor unit should be more than 1m. Otherwise it will interfere the image and cause noise.
- 3-5 minute protection
To protect the unit, compressor can be actuated with at least 3-5 minute delay after stopping.
- Defrosting during heating
To improve the heating effect, the outdoor unit will perform defrosting automatically when frost appears on the outdoor unit during heating (approximately 2-10min). During defrosting, the fan of the indoor unit runs at a low speed or stops while that of the outdoor unit stops running.
- Stopping fan rotation
The unit which stops operating will actuate the fan for a 2-8 min swing every 30-60 minutes for protecting the unit while other indoor unit are in the operating state.

4.4.3 Maintenance

 **Attention**

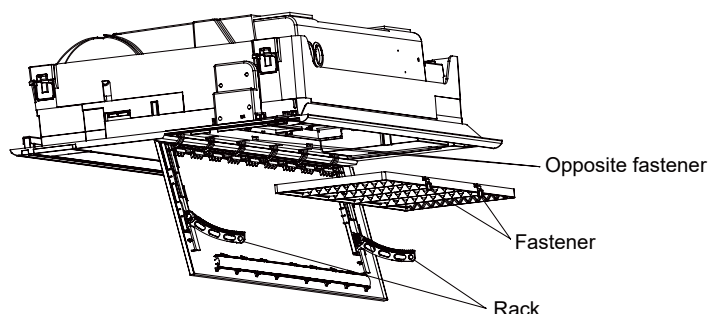
- Repair can only be performed by professional personnel.
- Before touching the connection line, all power supplies should be switched off. Only after switching off the power supply can the operator clean the air conditioner as to avoid electric shock or injury.
- When cleaning the air cleaner, make sure to use a stable platform; don't flush the air conditioner with water, or the electric shock might be caused.

Daily Maintenance:

Clean the air cleaner & Inlet guide plate

- Don't dismantle the air cleaner if not cleaning, or faults might be caused.
- When the air conditioner operates in the environment with too much dust, clean the air conditioner more times (generally once every two weeks).

As shown in the drawing, draw the wind guide on both sides of the rack, with the thumb to hold down the screen two buttons down gently pull the other side of the filter from the bayonet can be removed.



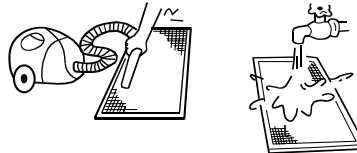
Clean the air cleaner

• Cleaning

Clean the air cleaner with the dust collector or water to remove dusts.

For too much dust, use the fan or directly spray the special cookware detergent on the air inlet grid, and then clean it with water after 10 minutes.

(A) remove dust with dust collector.



(B) for too much dust, use soft-hair brush and mild detergent to clean.

(C) throw off water and then dry it at cool places.

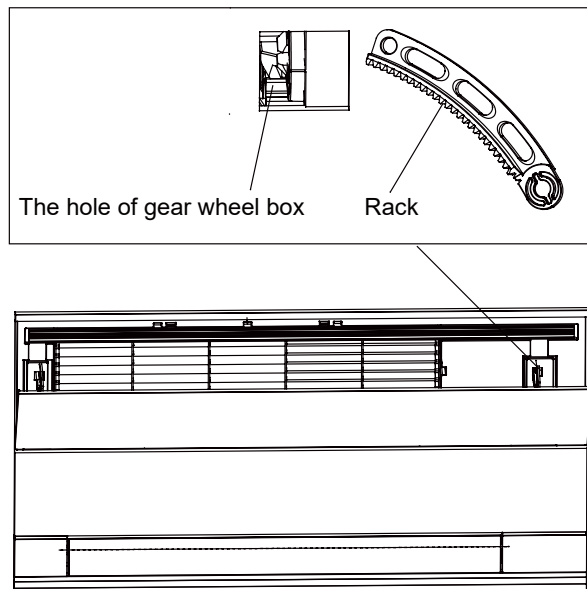
 Attention

- Don't clean it with hot water of over 50°C to avoid fading or distortion.
- Don't dry it on the fire, or the cleaner might cause fire.

Install the air cleaner & Inlet guide plate

1. Install the air cleaner: The method is contrary to the method of removing the dust screen.

2. Install the Inlet guide plate: As shown below, the rack on the return air guide plate is inserted into the gear box.



Cleaning the air outlet port and the shell



Attention

- Don't use gasoline, benzene, diluents, polishing powder or liquid insecticide to clean them.
- Do not clean them with hot water of above 50°C to avoid fading or distorting.
- Wipe them with soft dry cloth.
- Water or neutral dry cleanser is recommended if the dust cannot be removed.
- The Wind Deflector can be dismantled to clean.



Attention

- Do not wipe the wind deflector with water forcibly to avoid the floss falling off.

Maintenance before and after Operating Season

Before Operating Season:

1. Please make the following checkup:

- There is no blockage in inlet port and outlet port of outdoor and indoor units.
- The ground line and the wiring are in the proper state.

If abnormal condition occurs, consult the after-service personnel.

2. Clean the air cleaner and the shell.

- After cleaning, the air cleaner must be mounted.

3. Switch it on to the power.

- After cleaning, the air cleaner must be mounted.

After Operating Season:

1. In sunny days, blowing operation can be performed for half a day to make the inside of machine dry.

2. Switch it off.

- Electrical power should be cut down to economize electricity, or the machine will still consume power.

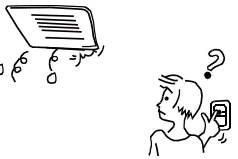
3. Clean the air cleaner and the shell.

- Air cleaner and shell must be mounted after cleaning.

For cleaning details, refer to Maintenance.

4.4.4 Fault Checkup

Please check the following when consigning repair service:

	Symptoms	Reasons
All these are not problems	Water flow sound	Water flow sound can be heard when starting operation, during operation or immediately after stopping operation. When it starts to work for 2-3 minutes, the sound may become louder, which is the flowing sound of refrigerant or the draining sound of condensed water.
	Cracking sound	During operation, the air conditioner may make the cracking sound, which is caused from the temperature changes or the slight dilation of heat exchanger.
	Terrible smell in outlet air	The terrible smell, caused from walls, carpet, furniture, clothing, cigarette and cosmetics, attaches on the conditioner.
	Flashing operating indicator	When switching it on again after power failure, turn on the manual power switch and the operating indicator flashes.
	Awaiting indication	It displays the awaiting indication as it fails to perform refrigerating operation while other indoor units are in heating operation. When the operator set it to the refrigerating or heating mode and the operation is opposite to the setting, it displays the awaiting indication.
	Sound in shutdown indoor unit or white steam or cold air	To prevent oil and refrigerant from blocking the shutdown indoor units, refrigerant flows in the short time and make the sounds of refrigerant flowing. Otherwise, when other indoor units performs heating operation, white steam may occur; during refrigerating operation, cold air may appear.
	Clicking sound when switching the air condition on	When the conditioner is powered on, the sound is made due to the resetting of the expansion valve.
Please make another check.	Start or stop working automatically	Check if it is in the state of Timer-ON and Timer-OFF.
	Failure to work 	Check if there is a power failure. Check if the manual power switch is turned off. Check if the supply fuse and breaker are disconnected. Check if the protective unit is working. Check if refrigerating and heating functions are selected simultaneously with the awaiting indication on line control.
	Bad cooling & heating effects	Check if air intake port and air outlet port of outdoor units are blocked. Check if the door and windows are open. Check if the filtering screen of air cleaner is blocked with sludge or dust. Check if the setting of wind quantity is at low wind. Check if the setting of operation is at the Fan Operation state. Check if the temperature setting is proper.

Under the following circumstances, immediately stop the operation, disconnect the manual supply switch and contact the after-service personnel.

- When buttons are inflexible actuated;
- When fuse and breaker have been burnt over and over;
- When there are foreign objects and water in the refrigerator;
- When it cannot still be operated after removing the operation of protective unit;
- When other abnormal conditions occur.

4.4.5 Installation Procedures

Before installation

- Do not throw away the included parts before installation.
- Determine the handling route from the unit to the installation location
- Before moving the unit to the installation position, do not remove the packaging, had to remove the packaging, with a soft material or protective plate with a rope to lift the unit, so as not to damage the unit or wipe scratches.
- After the unit is moved into the installation, please use the package to protect the unit from damage.

The standard attached accessories of the units of this series refer to the packing list; prepare other accessories according to the requirements of the local installation point of our company.

Indoor units should be installed in places with the environment of even circulation of cool and warm blows. The following places should be avoided.

- places with high salinity (beach), high sulfured gas(such as the thermal spring regions where copper tubes and soft soldering are easy to be eroded), much oil(including mechanical oil) and steam; places where organic substance solvent is used; where special spray is frequently used;
- places where machines generate the high frequency electromagnetic wave (abnormal condition will appear in the control system);
- places where there is high humidity exists near the door or windows (dew is easily formed).



WARNING

protect the machine from gales or earthquake, make the installation according to the regulations. Improper installation will cause accidents due to the overturn of the air conditioner.

1. Select the following places to install indoor units.

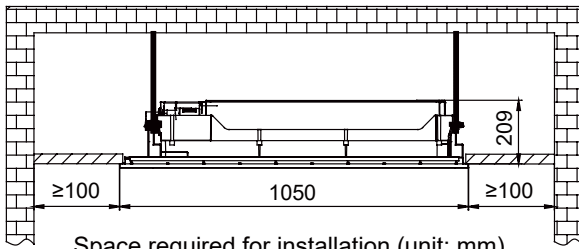
- (1) where there is enough room for the machine above the ceiling;
- (2) where the drainpipes can be well arranged;
- (3) where the distance between the air outlet port of the machine and the floor is not more than 2.7m;
- (4) where air inlet & outlet of the indoor units are not blocked;
- (5) where it is hard enough to bear the weight of the unit;
- (6) where there are no television, piano and other valuables under the indoor units as to avoid condensate dropping down, causing damage.
- (7) Where it is over 1m away from the television and radio as to avoid the disturbance from television and radio.
- (8) Select the indoor unit around (such as the ceiling of the installation of indoor units sandwich) dry bulb temperature below 30°C and relative humidity below 80% of the place. If the unit is running in a high humidity environment above the above conditions, there may be water drops. Please add 10 ~ 20mm insulation material (foamed polyethylene or equivalent) to the unit as well as piping and drain. When the insulation material exceeds 10mm, please press fit into the ceiling opening.
- (9) The indoor unit is not affected by external invasions. Return air is not recommended at the door, window, if there is no choice to keep closed, off the window, while saving energy can effectively reduce the air conditioning operation exception.

Installation Space

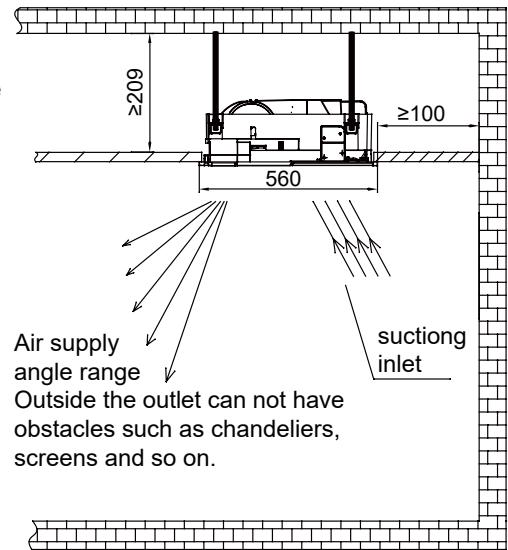
Ensure the required space for installation and maintenance (refer to the following drawings).

The installation height should be kept within 2.7m.

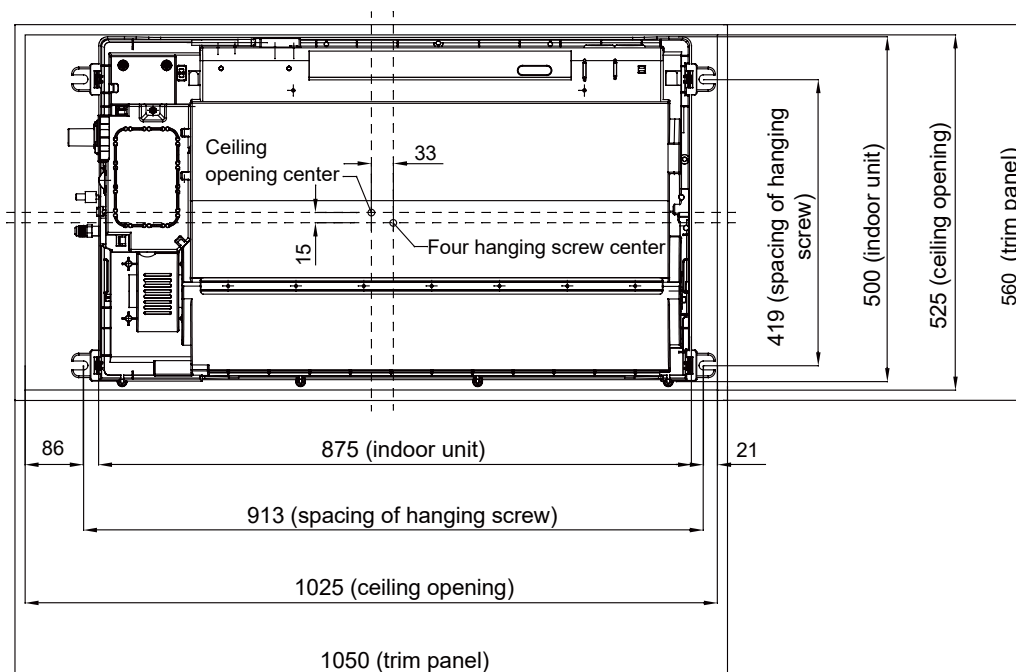
When the height of the ceiling exceeds 2.7m, the warm air is hard to blow to the ground.



Space required for installation (unit: mm)



2. Location Relationship among Ceiling Hole, Unit and Hoisting Studs



Note:

Before suspending the indoor unit, select the installation location according to the piping and wiring in the ceiling, and determine the lead direction of the piping. Prepare all pipes (refrigerator and drainage) and wiring (connection line for remote control and connection line of indoor units and outdoor units) connected to indoor units before suspending the indoor unit so as to make the connections right after the installation.

- In the situation with the ceiling, before suspending the unit, set refrigerant pipe, drainpipe, connection line in the room, lead wire of line control to the locations of piping and wiring.
- Confirm the size of the indoor unit and fix it according to the requirements in the manual.

3. Ceiling Hole & Reinforcement

- (1) Cut and withdraw the foundation of ceiling according to the size of indoor unit.
- (2) After cutting an appropriate hole, reinforce the cutting area on the foundation of indoor unit, and append the rim to the ceiling to secure its foundation. In order to prevent the ceiling from vibrating, it is vital to reinforce the ceiling foundation and ensure the original levelness of the ceiling.

4. Hoisting Stud Installation

- To support the weight of the unit, use barb bolts in the situation with the ceiling. In the situation with the new ceiling, use inlaid bolts, embedded bolts or other parts provided on site. Before proceeding the installation, adjust the gap between the bolts and the ceiling.
- Use four M10 hoisting studs (provided on site) (when the height of the hoisting stud exceeds 0.9m, M10 studs should be used.). The gaps should be kept according to the overall drawing of the air conditioner. Make the installation according to regulations for various building structures as to ensure the safety. Use the level meter to perform the parallel installation.

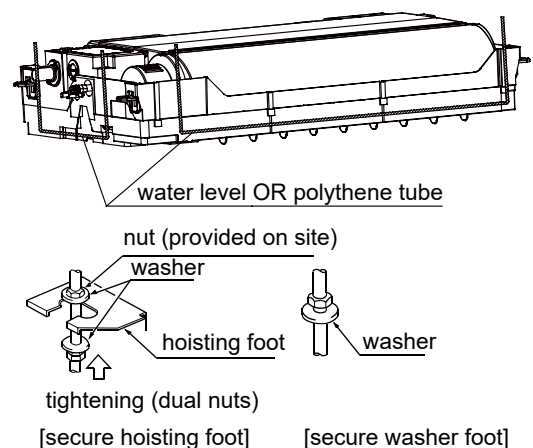
Ceiling Suspending

Situation with New Ceiling

- (1) Install the indoor unit temporarily:
attach the hoisting foot to hoisting stud. Make sure that nuts and washers should be used at two ends of the foot to secure the foot.
- (2) For the size of the ceiling hole, please refer to the schematic drawing at the previous page.
<After finishing the installation of the ceiling>
- (3) Adjust the unit to the proper installation location.
- (4) Check if the unit is in the horizontal level:
The indoor unit is equipped with a built-in drainage pump and a floater switch. Check if the 4 angles of the unit are in the horizontal level with the water level or the polythene tube with water, as shown in the figure, taking only one indoor unit as an example. If the unit inclines opposite to the direction of condensate flow, the floater switch might have faults, causing water dropping. (When lifting can be tilted to the drain, the long side of the horizontal height difference 0 ~ 10mm.)
- (5) Tighten the nut on the washer.
- (6) Remove the mounting cardboard.

Situation with Original Ceiling

- (1) Install the indoor unit temporarily: attach the hoisting foot to hoisting stud. Make sure that nuts and washers (provided on site) should be used at two ends of the foot to secure the foot.
- (2) Adjust the height and location of the unit.
- (3) Perform Step 4 and 5 in Situation with New Ceiling.

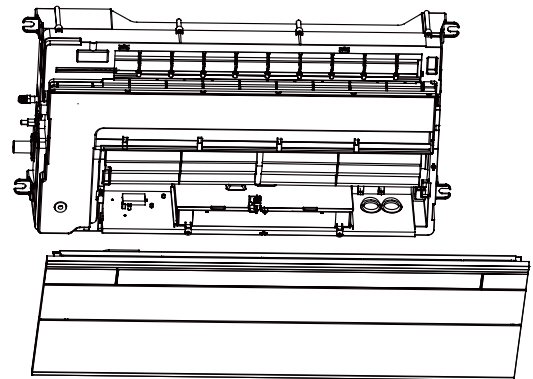


Preparation of Decorated Board

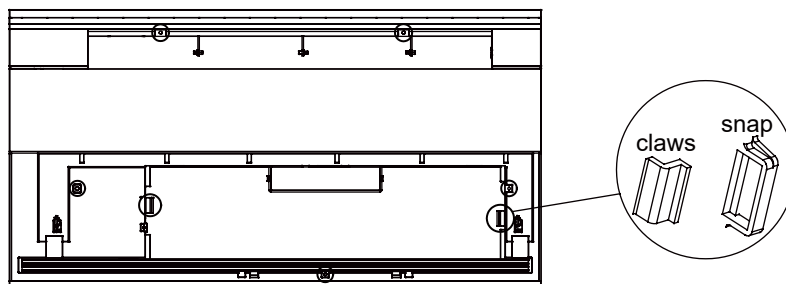
- Don't put the decorated board downward to the floor. Putting it against the wall or on the extrusive objects is not allowed.
 - Don't touch the wind deflector or apply force on it, or the wind deflector will have faults.
- (1) Check the level of the indoor unit with a flat or filled polyethylene pipe and check that the size of the ceiling hole is correct. Remove the horizontal gauges before installing the trim panels.
- (2) Fix the screws so that the height difference between the two sides of the indoor unit is less than 5mm.

The installation of the decorative panel in the indoor unit body

- Install the panel before the need to remove the return air guide, the method at the same time hold down the two ends of the button, slowly even pull the guide plate, remove the appropriate place to prevent damage.
- Install the panel in the direction of the illustration to ensure that the panel inlet and outlet are corresponding to the inlet and outlet of the machine.

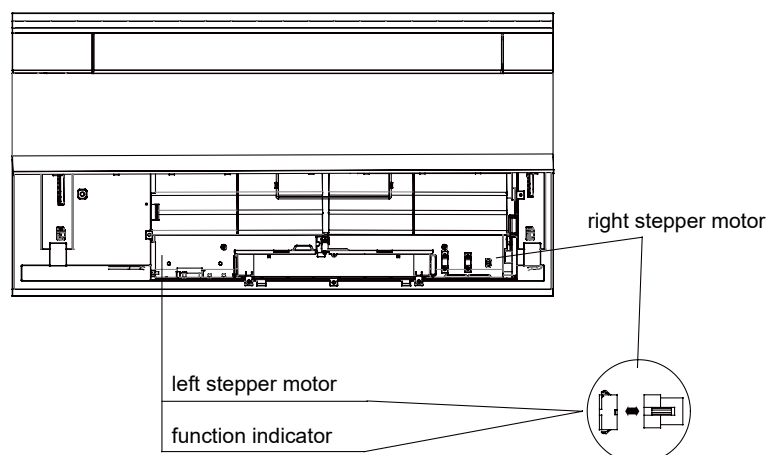


- Install the two claws into the snap and secure with the screws. (Screw hole position as shown, hidden parts have been hidden).



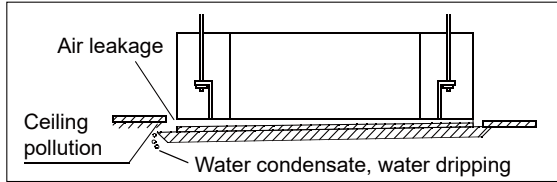
Decorative panels of the line

- Connect the connector on the right side of the trim panel to the stepped motor wire (10-pin)
- Connect the connector on the left side of the trim panel to the stepped motor wire (5-pin)
- Connect the connector of the lamp panel mounted on the trim panel(9-pin)
- Connect the communication cable, the power cord, and use the controller to check whether the connection is correct, make sure the machine can be installed after the normal operation of the filter, the return air guide back.

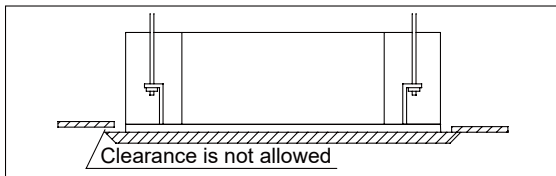


Caution:

- Improper tightening of bolts would lead to the faults shown in the following figure.



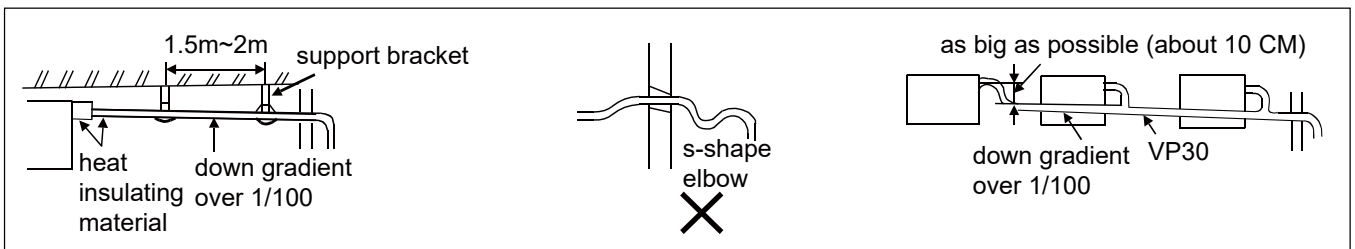
- After tightening the bolts, if there is a clearance between the ceiling and the trim panel, please readjust the height of the indoor unit.



Drainpipes

Requirements:

- The drainpipe of the indoor unit should be heat-insulated.
- Heat insulation should be treated for the connection with the indoor unit. Improper heat insulation may cause condensing.
- The drainpipe with the down gradient of over 1/100 can't be in the S shape, or abnormal sound can be caused.
- The horizon length of the drainpipe should be kept with 20m. Under the condition of long pipes, supports can be provided every 1.5~2m as to avoid unevenness.
- The central piping should be connected according the following drawing.
- Take care not to apply external force on the connection of the drainpipes.



Piping Materials & Heat Insulating Materials

As to prevent condensation, heat insulating treatment should be performed. The heat insulating treatment for piping should be done respectively.

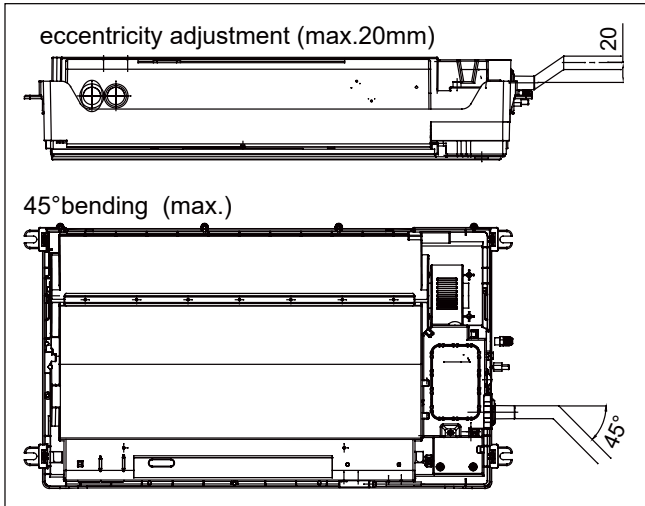
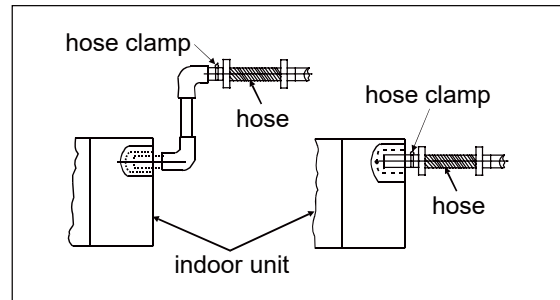
Piping Material	Hard PVC tube VP31.5mm (inner bore)
Heat Insulating Material	Vesicant polythene thickness: over 7mm

Hose

The attached hoses can be used to adjust the eccentricity and angle of the hard PVC tube.

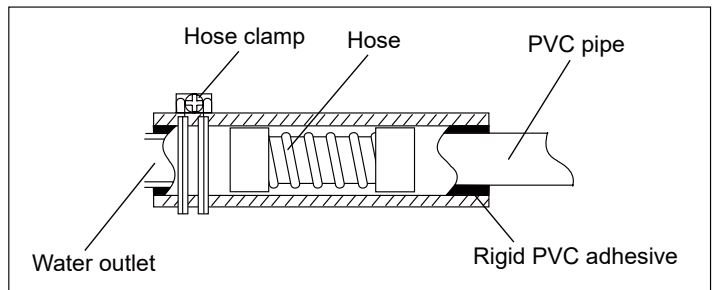
- Stretch the hose directly to make connections as to avoid distortion. The soft end of the hose should be positioned with a clamp.

- The hose should be used in the horizon direction.



Heat Insulating Treatment:

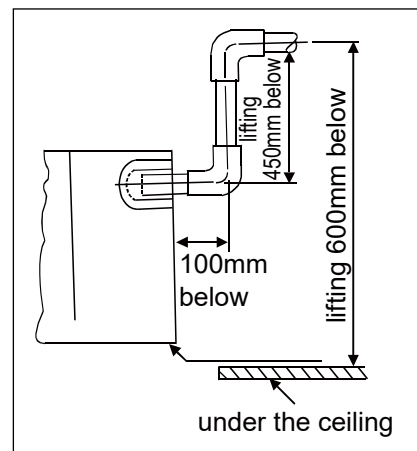
- Wrap the connection between the clamp and the root segment of the indoor unit without any gap with heat insulating materials as shown in the drawing



Lifting Drainpipe

The drainpipe can be lifted 450mm. When the down gradient of the drainpipe can't be ensured, after upright lifting, the drainpipe is in the down slope.

Confirming Drainage

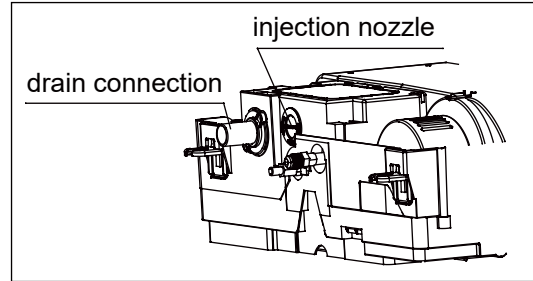


Confirming Drainage

The drainage should be confirmed during the test run to make sure that there is leakage at the connection.

The confirmation of drainage should be also performed during the installation in the winter season.

- After mounting the electrical system, do cooling operation and meanwhile add water and check. Fill 600cc water with a hose from the injection nozzle. Add the water slowly. Don't add water to the motor of the drainage pump.



- Confirm the sound of the motor:

Confirm the sound of the motor of the drainage pump and meanwhile check the drainage.

Tubing Permissible Length & Height Difference

Please refer to the attached manual of outdoor units.

Tubing Materials & Specifications

Please refer to the attached manual of outdoor units.

Model		4MXE2309BF0W0AA	4MXE2312BF0W0AA
Tubing Size (mm)	Gas pipe	Ø9.52	Ø9.52
	Liquid pipe	Ø6.35	Ø6.35
Tubing Material	Phosphor deoxybronze seamless pipe (TP2) for air conditioner		

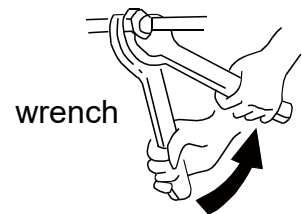
Refrigerant Filling Amount

Add the refrigerant according to the installation instruction of outdoor unit. The addition of R410A refrigerant must be performed with a measure gage to ensure the specified amount while compressor failure can be caused by filling too much or little refrigerant.

Connecting Procedures of Refrigerant Tubing

Proceed the flare tube connecting operation to connect all the refrigerant tubes.

- Dual wrenches must be used in the connection of indoor unit tubing.
- Mounting torque refers to the right table



Outer Diameter of Tubing (mm)	Mounting Torque (N-m)	Increase mounting Torque (N-m)
Ø6.35	11.8(1.2kgf-m)	13.7(1.4kgf-m)
Ø9.52	24.5(2.5kgf-m)	29.4(3.0kgf-m)
Ø12.7	49.0(5.0kgf-m)	53.9(5.5kgf-m)
Ø15.88	78.4(8.0kgf-m)	98.0(10.0kgf-m)

Cutting and Enlarging

Cutting or enlarging pipes should be proceeded by installation personnel according to the operating criterion if the tube is too long or flare opening is broken.

Vacuumizing

Vacuumize from the stop valve of outdoor units with vacuum pump. Refrigerant sealed in indoor machine is not allowed to use for vacuumization.

Open All Valves

Open all the valves of outdoor units.

[NB: oil balancing stop valve must be shut up completely when connected one main unit.]

Checkup for Air Leakage

Check if there is any leakage at the connecting part and bonnet with hydrophone or soapsuds.

4.4.6 Electrical Wiring



WARNING

- Electrical construction should be made with specific mains circuit by the qualified personnel according to the installation instruction. Electric shock and fire may be caused if the capacity of power supply is not sufficient.
- During arranging the wiring layout, specified cables should be used as the mains line, which accords with the local regulations on wiring. Connecting and fastening should be performed reliably to avoid the external force of cables from transmitting to the terminals. Improper connection or fastness may lead to burning or fire accidents.
- There must be the ground connection according to the criterion. Unreliable grounding may cause electrical shocks. Do not connect the grounding line to the gas pipe, water pipe, lightning rod and telephone line.



ATTENTION

- Only copper wire can be used. Breaker for electric leakage should be provided, or electric shock may occur.
- The wiring of the mains line is of Y type. The power plug L should be connected to the live wire and plug N connected to null wire while should be connected to the ground wire. For the type with auxiliary electrically heating function, the live wire and the null wire should not be misconnected, or the surface of electrical heating body will be electrified. If the power line is damaged, replace it by the professional personnel of the manufacturer or service center.
- The power line of indoor units should be arranged according to the installation instruction of indoor units.
- The electrical wiring should be out of contact with the high-temperature sections of tubing as to avoid melting the insulating layer of cables, which may cause accidents.
- After connected to the terminal tier, the tubing should be curved into be a U-type elbow and fastened with the pressing clip.
- Controller wiring and refrigerant tubing can be arranged and fixed together.
- The machine can't be powered on before electrical operation. Maintenance should be done while the power is shut down.

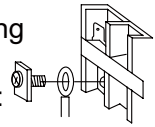
- Seal the thread hole with heat insulating materials to avoid condensation.
- Signal line and power line are separately independent, which can't share one line. Signal line and power line spacing greater than 100mm.
- 5 butt lines (1.5mm) are equipped in the machine before delivery, which are used in connection between the valve box and the electrical system of the machine. The detailed connection is displayed in the circuit diagram.
- The power cord must go through the wire hole from the outside into the machine, the wire holes need to be sealed with rubber ring to prevent the wear of the power line insulation sheath; the use of the process should pay attention to the protection of the power cord. Prevent sharp objects from damaging the insulation of the power cord. Damage to the power cord may cause fever, fire and other accidents.

Connecting

1. Connecting circular terminals:

The connecting method of circular terminal is shown in the Fig. Take off the screw, connect it to the terminal tier after heading it through the ring at the end of the lead and then tighten it.

Connecting circular terminals:

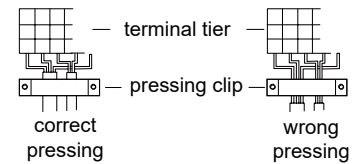


2. Connecting straight terminals:

The connection methods for the circular terminals are shown as follows: loosen the screw before putting the line terminal into the terminal tier, tighten the screw and confirm it has been clamped by pulling the line gently.

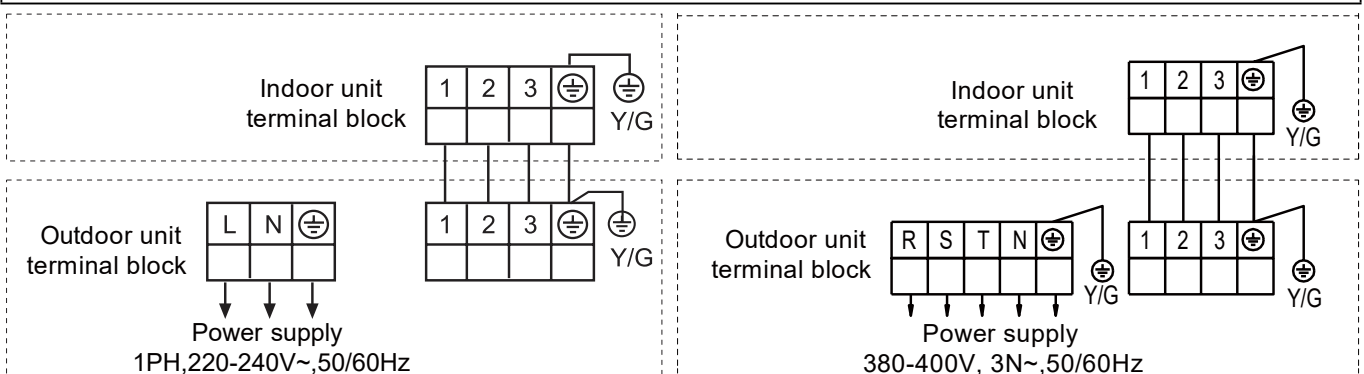
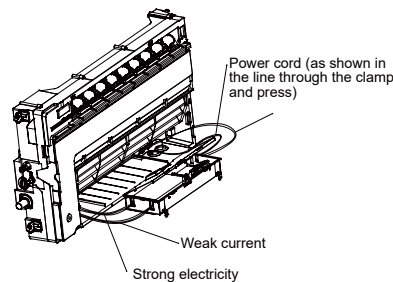
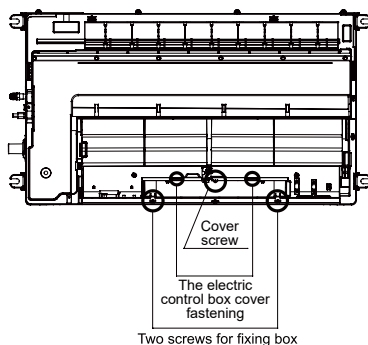
3. Pressing connecting line

After connecting line is completed, press the connecting line with clips which should press on the protective sleeve of the connecting line.



4. Electronic control box connection operation method

First, remove the screw of the fixed electric control box, pull out the electric control box, and then remove the electric control box cover fixing screw, take off the electric control box cover (both hands press and hold the button at the same time). Signal line through the machine through the hole, and then through the electronic control box hole into the box body, pay attention to the separation of strength. Connect the electric control box cover and push the electric control box back to the machine. Use screws to fix.



The specification of cable between indoor unit to outdoor unit is HO5RN-F4G 2.5mm²

WARNING

- The power cable and connecting cable are self-provided.
- Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.
- Use a circuit breaker and receptacle matched to the capacity of the room air conditioner.
- The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3mm between the contacts of each pole.
- Perform wiring work in accordance with standards so that the room air conditioner can be operated safely and positively.
- Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

CAUTION

- The power source capacity must be the sum of the room air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.
- When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

4.4.7 Test Run

Check items

1. Indoor unit

- Is operation of each button on the remote control unit normal?
- Does each lamp light normally?
- Do not air flow direction louvers operate normally?
- Is the drain normal?

2. Outdoor unit

- Is there any abnormal noise and vibration during operation?
- Will noise, wind, or drain water from the unit disturb the neighbors?
- Is there any gas leakage?

Customer guidance

Explain the following to the customer in accordance with the operation manual:

- (1) Starting and stopping method, operation switching, temperature adjustment, timer, air flow switching, and other remote control unit operations.
- (2) Air filter removal and cleaning, and how to use air louvers.
- (3) Give the operation and installation manuals to the customer.

4.4.8 Move and scrap the air conditioning

- When moving, to disassemble and re-install the air conditioning, please contact your dealer for technical support.
- In the composition material of air conditioning, the content of lead, mercury, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers are not more than 0.1% (mass fraction) and cadmium is not more than 0.01% (mass fraction).
- Please recycle the refrigerant before scrapping, moving, setting and repairing the air conditioning; for the air conditioning scrapping, should be dealt with by the qualified enterprises.

Part 5 Outdoor Units

5.1 Feature

TRANE Model		4TXM2318BF300AA	4TXM2324BF300AA	
Power supply	V-ph-Hz	220-1-50(60)	220-1-50(60)	
Max. IDU combination		3	3	
Max. input consumption	W	2,500	2,600	
Max. input current	A	10.9	11.5	
Cooling	Capacity	Btu/h	18,000	24,000
	Capacity	W	5,200	7,000
	Input	W	1,500	2,000
	Rated Current	A	6.7	8.7
	EER	W/W	3.60	3.40
Heating	Capacity	Btu/h	19,000	24,000
	Capacity	W	5,860	7,000
	Input	W	1,500	2,000
	Rated Current	A	6.7	8.7
	COP	W/W	3.6	3.4
Compressor	Model		SNB140FULMC-L3	SNB140FULMC-L3
	Type		Twin Rotary (DC inverter)	Twin Rotary (DC inverter)
	Brand		MELCOM	MELCOM
	Capacity	Btu/h	15,000	15,000
	Input	W	1,300	1,300
	Rated current(RLA)	A	4.4	4.4
	Locked rotor Amp(LRA)	A	18.4	18.4
	Thermal protector position		INTERNAL	INTERNAL
	Capacitor	μF	/	/
	Refrigerant oil	ml	600	600
Outdoor fan motor	Model		ZWK511B500045	ZWK511B500045
	Qty		1	1
	Input	W	130	130
	Capacitor	μF	/	/
	Speed	r/min	700	700
Outdoor coil	Number of rows		1	2
	Tube pitch(a) × row pitch(b)	mm	25	21×18.18
	Fin spacing	mm	1.5	1.4
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	TP2M / 9.52	TP2M /7
	Coil length × height × width	mm	911×650×21.65	950×651×36.36
	Number of circuits		2	5

TRANE Model			4TXM2318BF300AA	4TXM2324BF300AA
Outdoor noise level (sound pressure)		dB(A)	52	53
Throttle type			EEV	EEV
Outdoor unit	Dimension(W×D×H)	mm	890×340×700	890×340×700
	Packing(W×D×H)	mm	998×443×770	998×443×770
	Net/Gross weight	kg	51/55	54/58
Refrigerant type/ Quantity	Type		R410a	R410a
	Charged volume	kg	1.9	1.9
Design pressure		MPa	4.15	4.15
Refrigerant piping	Liquid side/ Gas side	mm(inch)	3×Φ6.35/3×Φ9.52	3×Φ6.35/3×Φ9.52
	Max. pipe length	m	30	50
	Max. difference in level	m	15	15
Ambient temperature	Cooling	°C	-10~46	-10~46
	Heating	°C	-15~24	-15~24
Qty'per 20' /40' /40'HQ		Outdoor unit	90/180/180	90/180/180

TRANE Model		4TXM2330BF400AA	4TXM2336BF500AA
Power supply		V-ph-Hz	220-1-50(60)
Max. IDU combination			4
Max. input consumption		W	4,100
Max. input current		A	17.8
Cooling	Capacity	Btu/h	29,000
	Capacity	W	8,500
	Input	W	2,900
	Rated Current	A	13.1
	EER	W/W	3.00
Heating	Capacity	Btu/h	30,000
	Capacity	W	8,800
	Input	W	2,500
	Rated Current	A	11.2
	COP	W/W	3.4
Compressor	Model		TNB220FLHMC
	Type		Twin Rotary (DC inverter)
	Brand		MELCOM
	Capacity	Btu/h	24,000
	Input	W	2,200
	Rated current(RLA)	A	9.7
	Locked rotor Amp(LRA)	A	45
	Thermal protector position		INTERNAL
	Capacitor	μF	/
	Refrigerant oil	ml	870
Outdoor fan motor	Model		ZWK511B500045
	Qty		1
	Input	W	130
	Capacitor	μF	/
	Speed	r/min	770
Outdoor coil	Number of rows		2
	Tube pitch(a) × row pitch(b)	mm	21×18.18
	Fin spacing	mm	1.4
	Fin type		Hydrophilic aluminium
	Tube outside dia.and type	mm	TP2M /7
	Coil length × height × width	mm	950×651×36.36
	Number of circuits		5

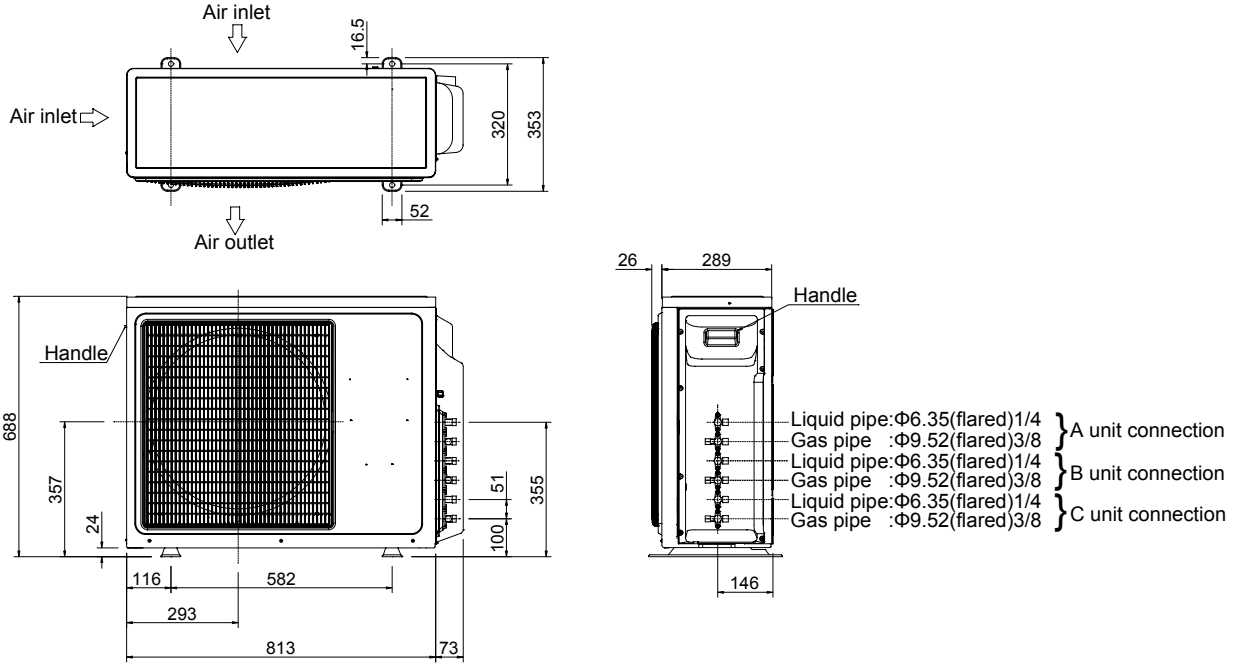
TRANE Model			4TXM2330BF400AA	4TXM2336BF500AA
Outdoor noise level (sound pressure)		dB(A)	55	58
Throttle type			EEV	EEV
Outdoor unit	Dimension(W×D×H)	mm	890×340×700	920×372×760
	Packing(W×D×H)	mm	998×443×770	1,036×478×820
	Net/Gross weight	kg	61/65	66/71
Refrigerant type/ Quantity	Type		R410a	R410a
	Charged volume	kg	2.5	2.8
Design pressure		MPa	4.15	4.15
Refrigerant piping	Liquid side/ Gas side	mm(inch)	4×Φ6.35/3×Φ9.52+1×Φ12.7	5×Φ6.35/3×Φ9.52+2×Φ12.7
	Max. pipe length	m	50	80
	Max. difference in level	m	15	15
Ambient temperature	Cooling	°C	-10~46	-10~46
	Heating	°C	-15~24	-15~24
Qty'per 20' /40' /40'HQ		Outdoor unit	90/180/180	48/100/150

TRANE Model		4TXM2342BF500AA	
Power supply		V-ph-Hz	220-1-50(60)
Max. IDU combination			5
Max. input consumption		W	5,500
Max. input current		A	23.9
Cooling	Capacity	Btu/h	41,000
	Capacity	W	12,000
	Input	W	3,800
	Rated Current	A	15.8
	EER	W/W	3.00
Heating	Capacity	Btu/h	41,000
	Capacity	W	12,000
	Input	W	3,700
	Rated Current	A	14.1
	COP	W/W	3.2
Compressor	Model		TNB306FPGMC
	Type		Twin Rotary (DC inverter)
	Brand		MELCOM
	Capacity	Btu/h	34,000
	Input	W	3,010
	Rated current(RLA)	A	13.5
	Locked rotor Amp(LRA)	A	67
	Thermal protector position		INTERNAL
	Capacitor	μF	/
	Refrigerant oil	ml	870
Outdoor fan motor	Model		SIC-81FW-F4151-1
	Qty		1
	Input	W	158
	Capacitor	μF	/
	Speed	r/min	820
Outdoor coil	Number of rows		2
	Tube pitch(a) × row pitch(b)	mm	22×19.05
	Fin spacing	mm	1.4
	Fin type		Hydrophilic aluminium
	Tube outside dia.and type	mm	TP2M /7.94
	Coil length × height × width	mm	1060×792×36.36
	Number of circuits		9
Outdoor noise level (sound pressure)		dB(A)	60
Throttle type			EEV

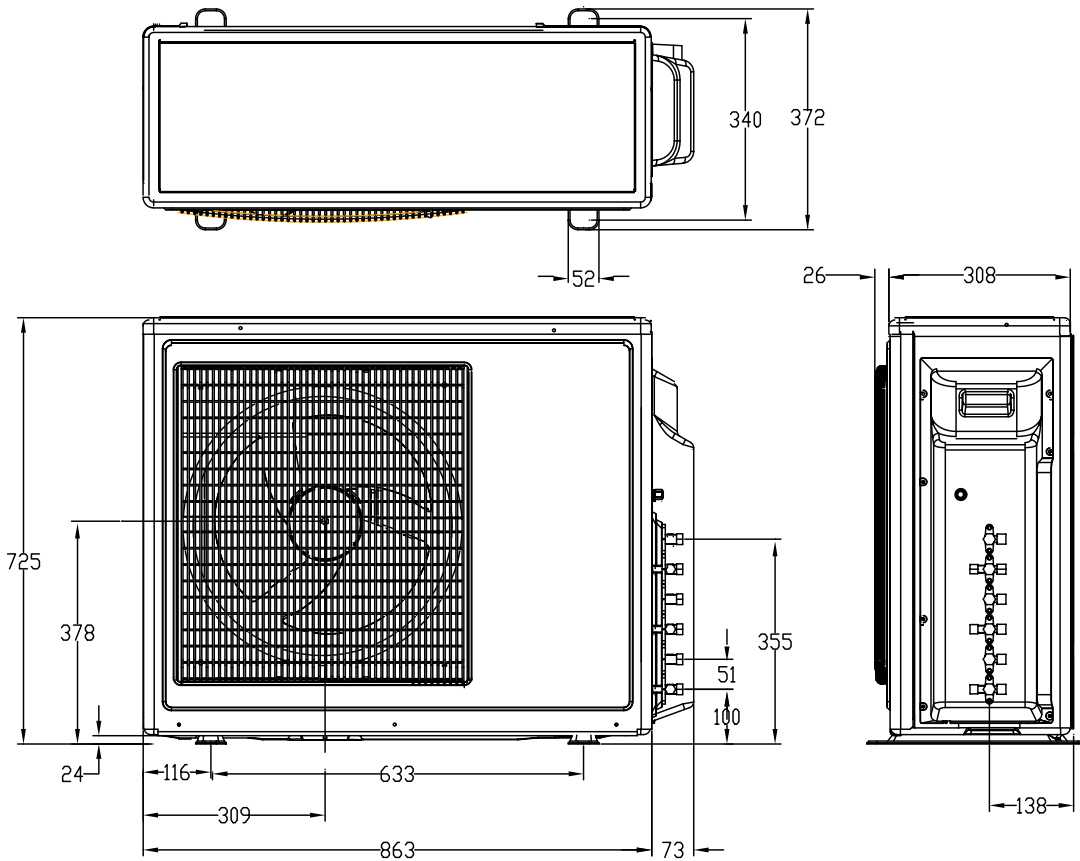
TRANE Model			4TXM2342BF500AA
Outdoor unit	Dimension(W×D×H)	mm	1,008×447×830
	Packing(W×D×H)	mm	1,130×490×1,000
	Net/Gross weight	kg	90/101
Refrigerant type/ Quantity	Type		R410a
	Charged volume	kg	3.2
Design pressure		MPa	4.15
Refrigerant piping	Liquid side/ Gas side	mm(inch)	5×Φ6.35/3×Φ9.52+2×Φ12.7
	Max. pipe length	m	80
	Max. difference in level	m	15
Ambient temperature	Cooling	°C	-10~46
	Heating	°C	-15~24
Qty'per 20' /40' /40'HQ		Outdoor unit	48/96/96

5.2 Dimension

4TXM2318BF300AA

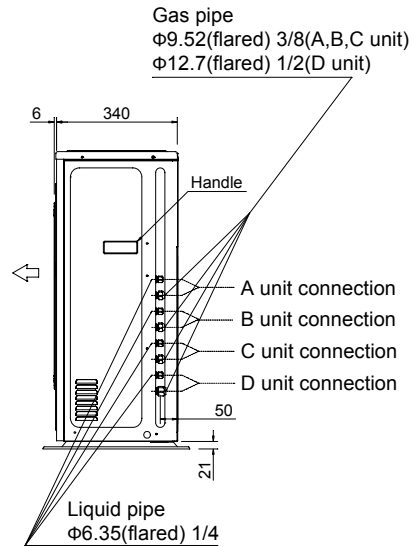
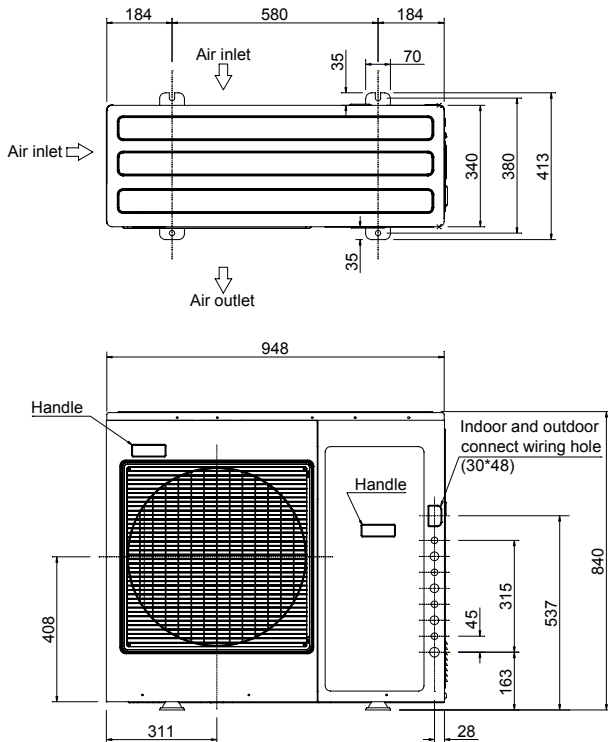


4TXM2324BF300AA

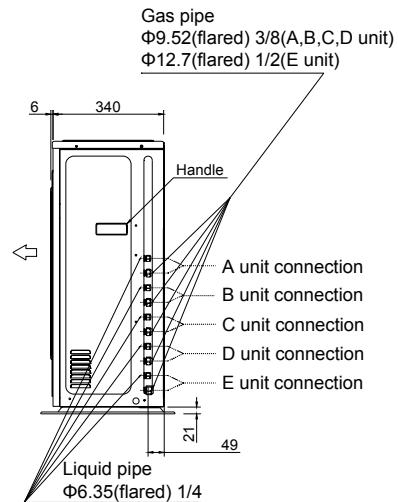
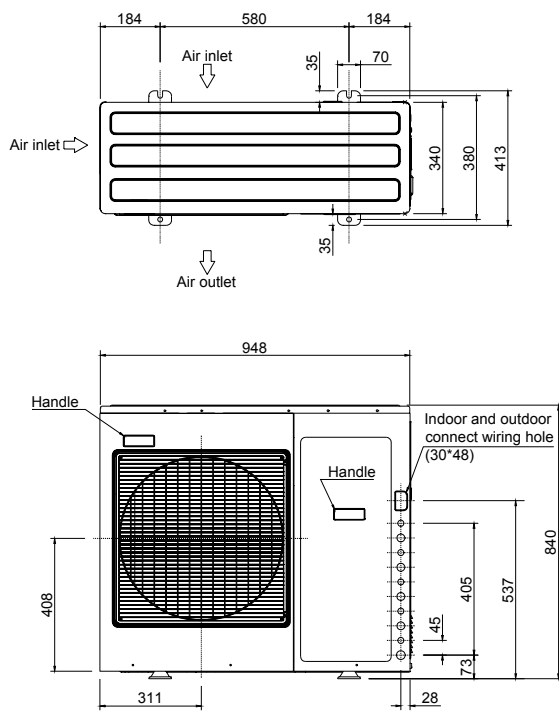




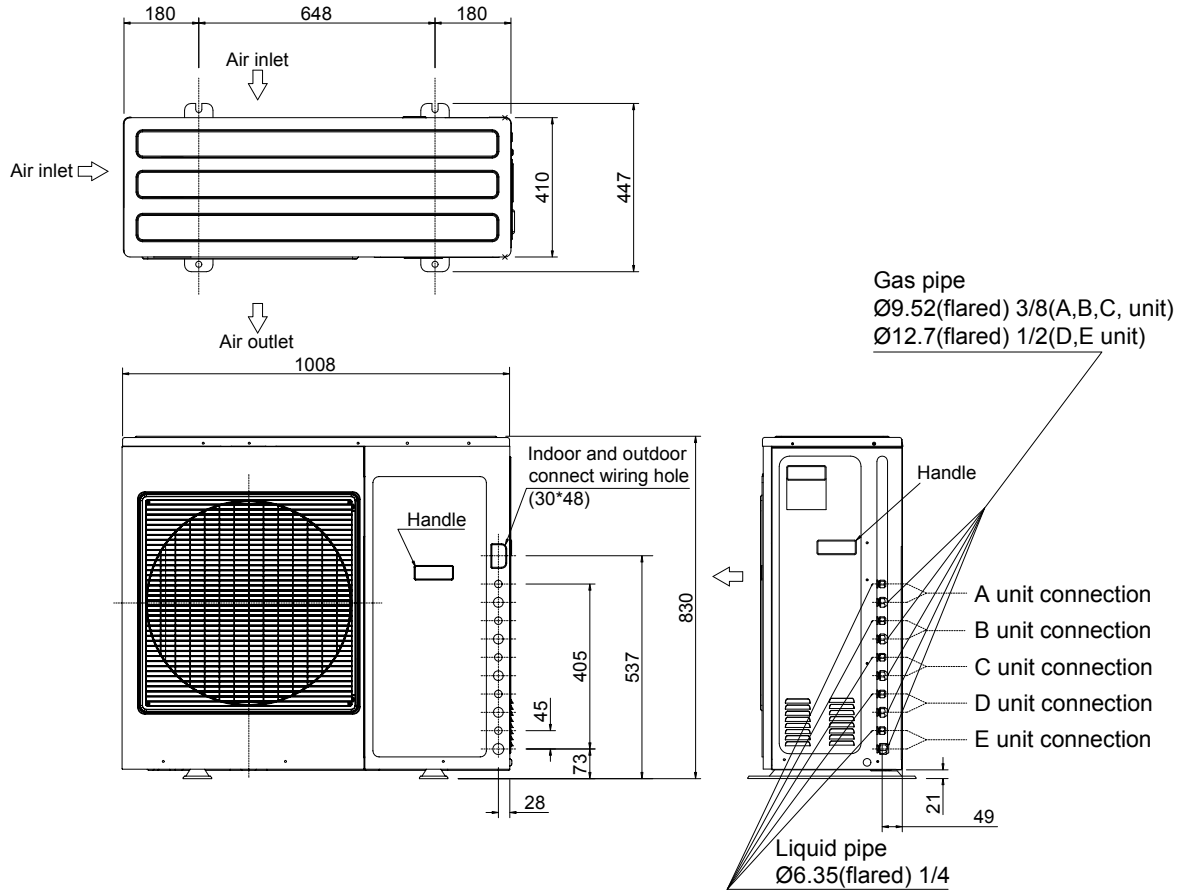
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4TXM2336BF500AA



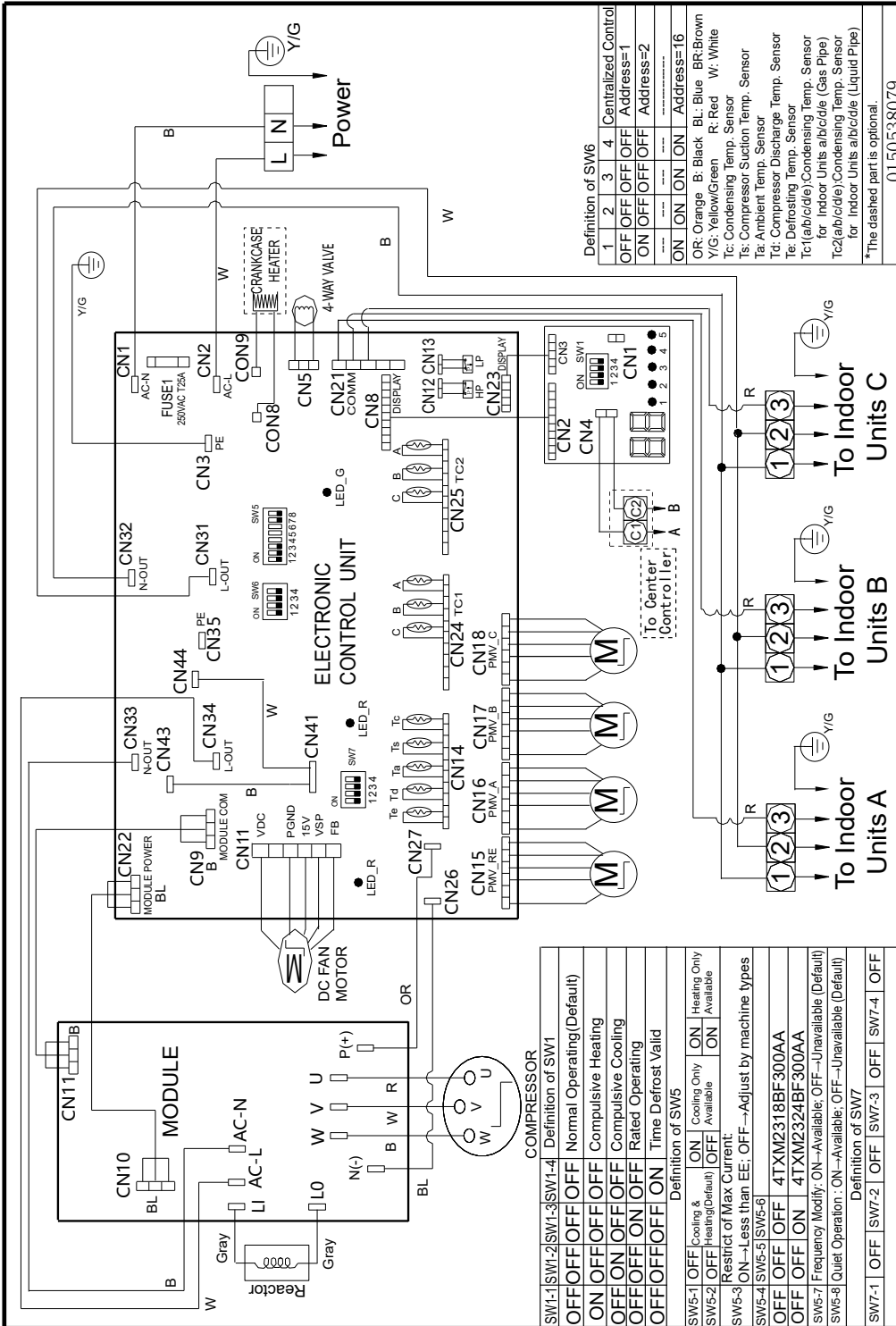
4TXM2342BF500AA





5.3 Wiring Diagram

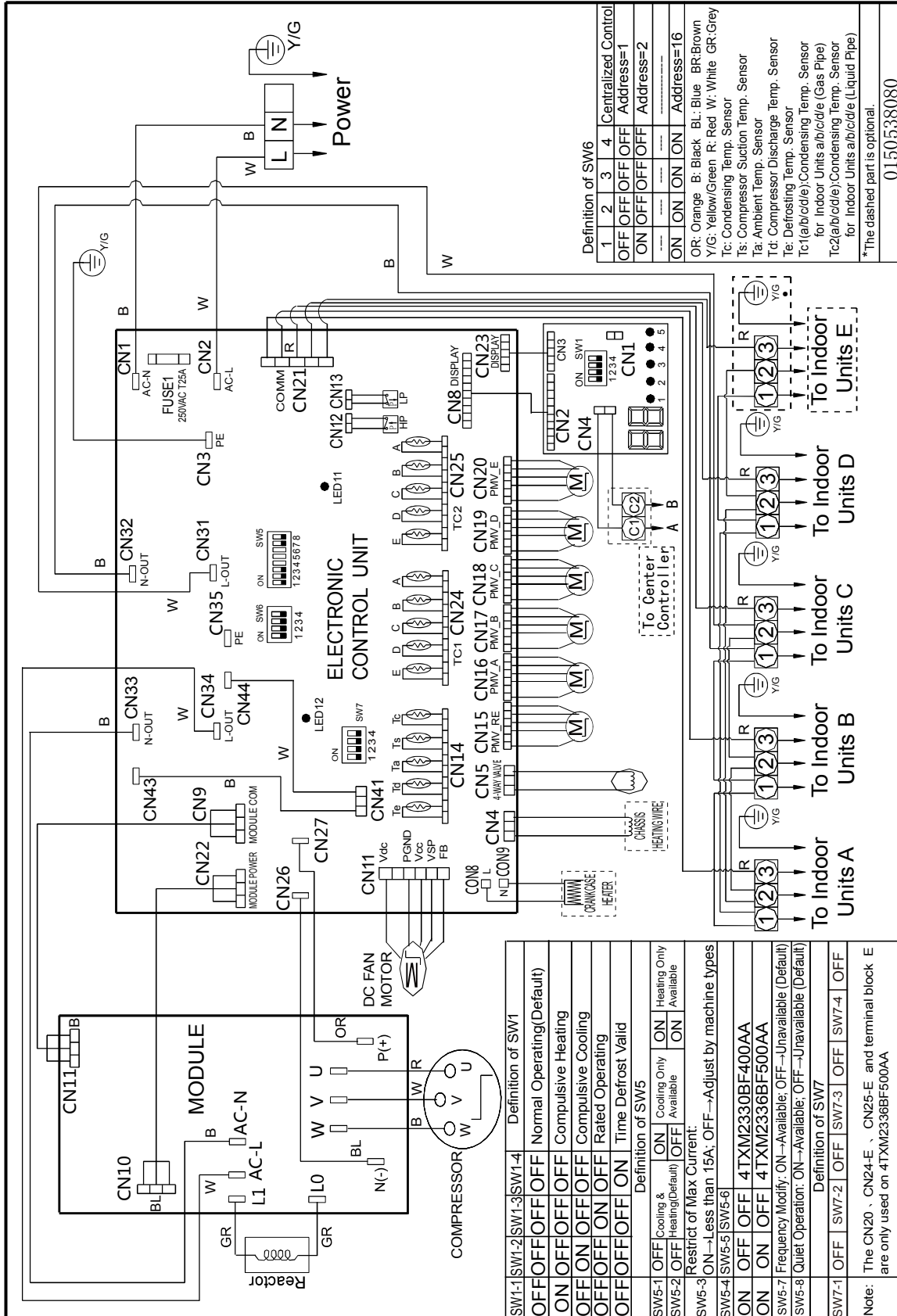
4TXM2318BF300AA 4TXM2324BF300AA





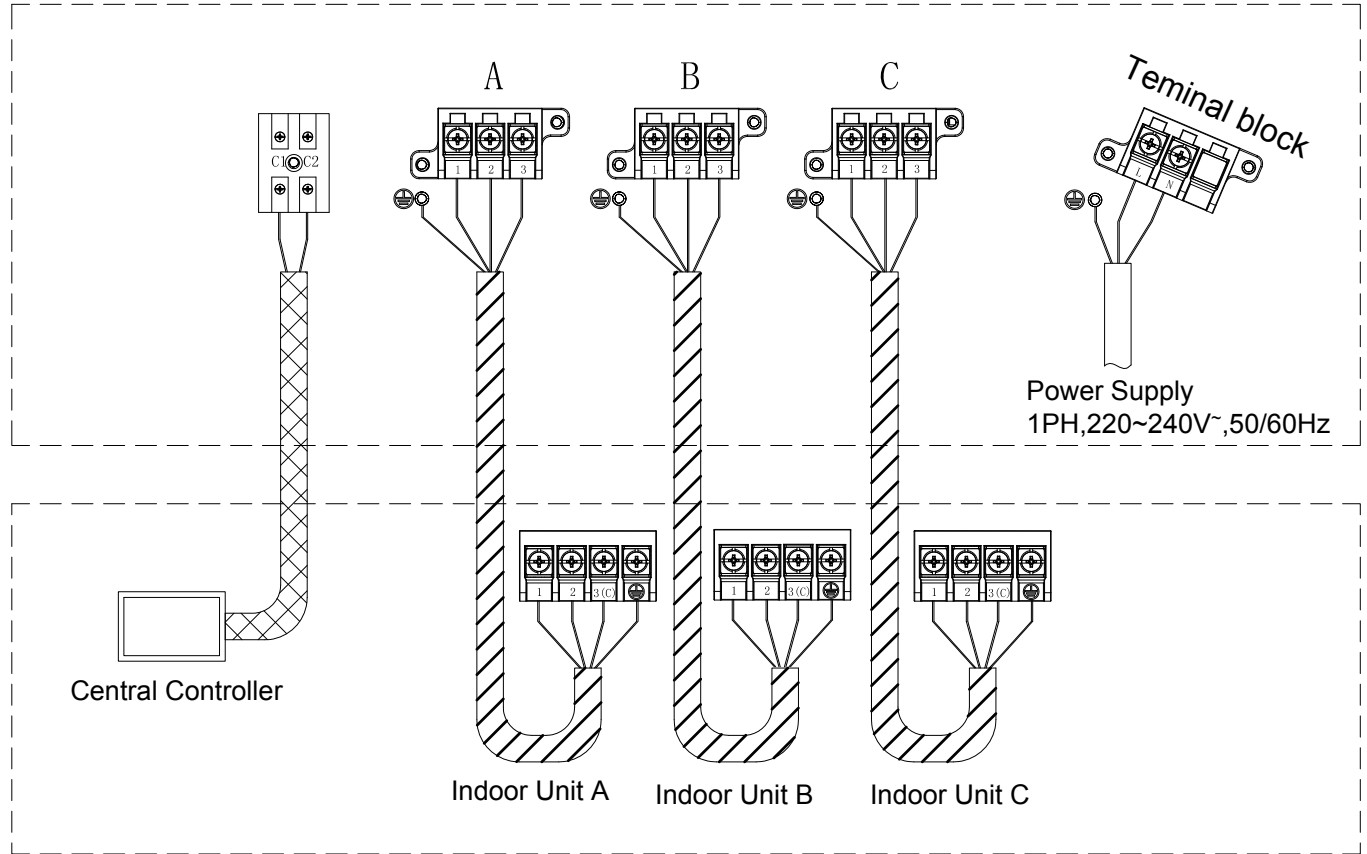
TRANE®

4TXM2336BF500AA





5.4 Wiring Connection

4TXM2318BF300AA 4TXM2324BF300AA



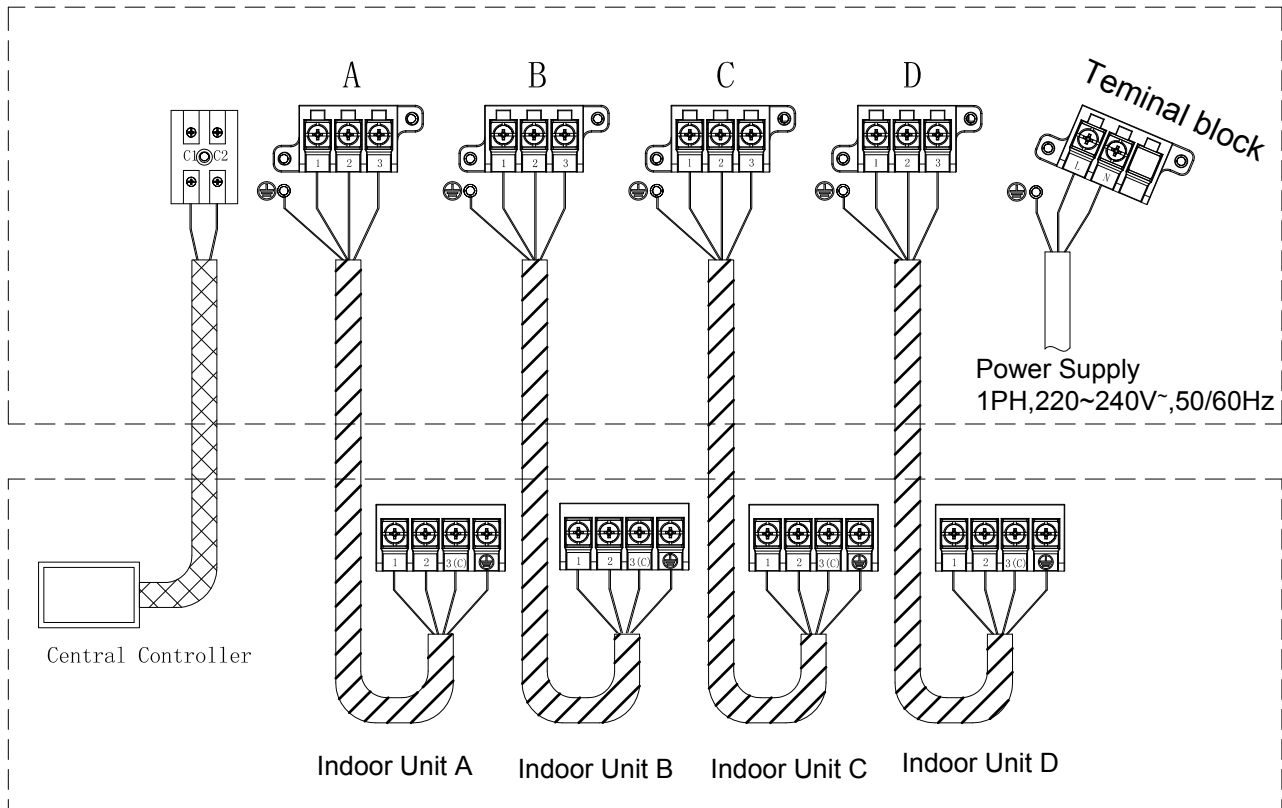
≡  ≡ Power Supply Cable: H05RN-F3G 4.0mm²

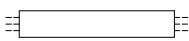
≡  ≡ Connecting Cable: H05RN-F4G 2.0mm²

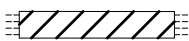
≡  ≡ Connecting Cable: H05RN-F2G 2.0mm²


Connect the connecting wires between indoor and outdoor units and ensure the sequence numbers on terminals match with each other.

4TXM2330BF400AA



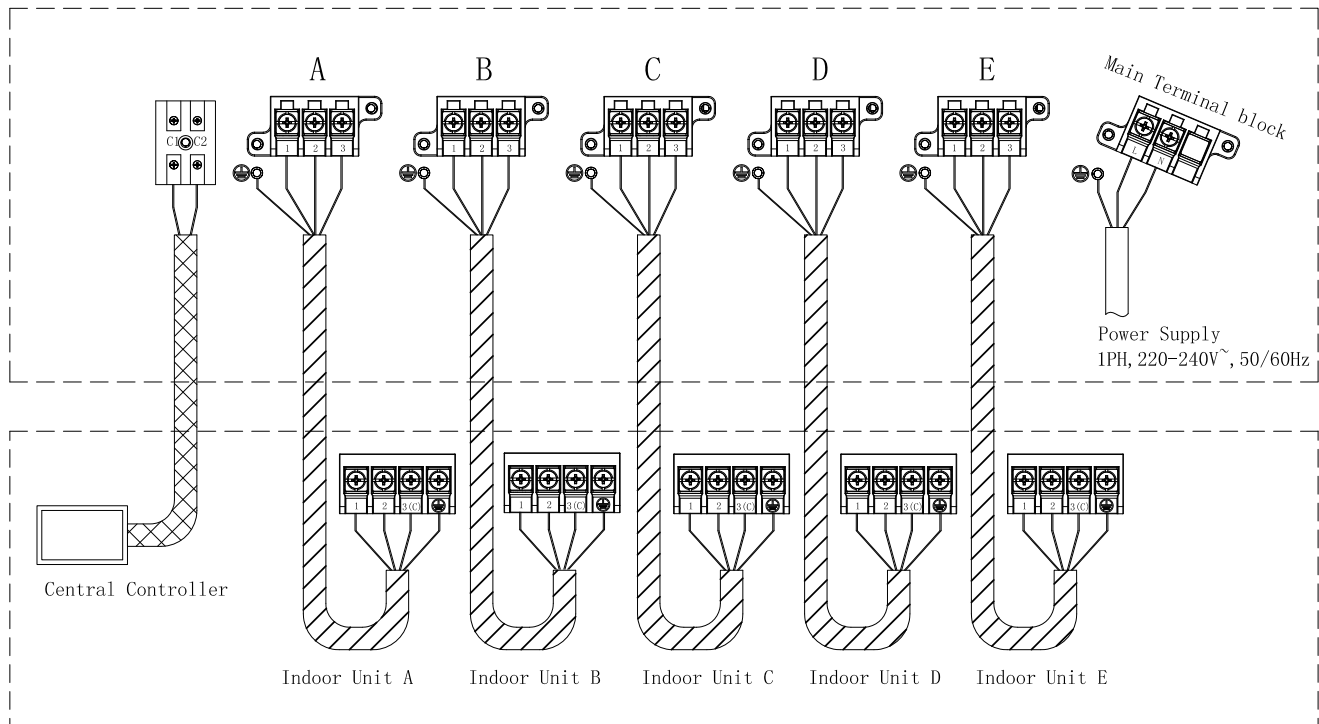
 Power Supply Cable: H05RN-F3G 4.0mm²

 Connecting Cable: H05RN-F4G 2.0mm²

 Connecting Cable: H05RN-F2G 2.0mm²

Connect the connecting wires between indoor and outdoor units and ensure the sequence numbers on terminals match with each other.

4TXM2336BF500AA 4TXM2342BF500AA



 Power Supply Cable: H05RN-F3g 4.0mm²

 Connecting Cable: H05RN-F4G 2.0mm²

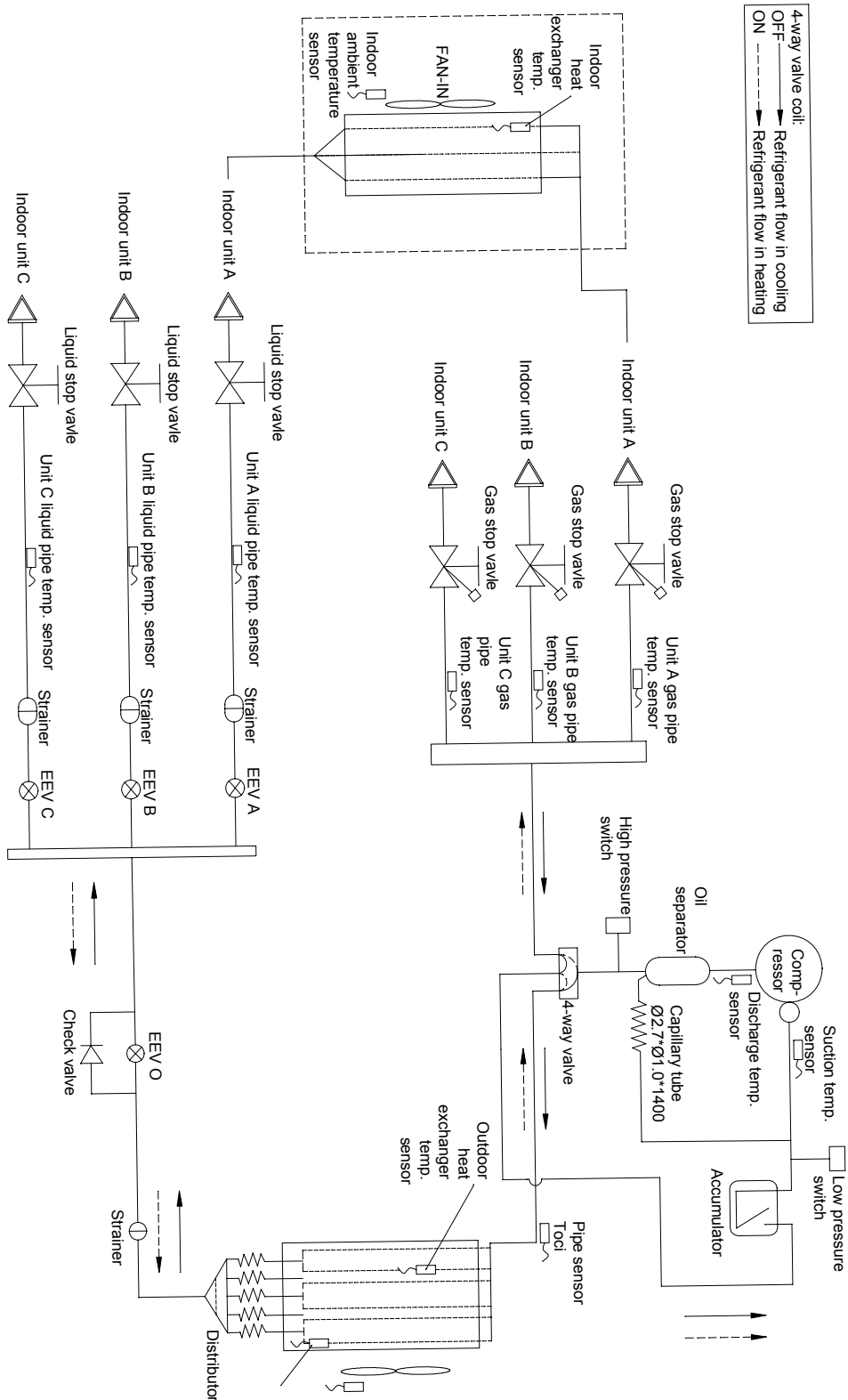
 Connecting Cable: H05RN-F4G 2.0mm²

Connect the connecting wires between indoor and outdoor units and ensure the sequence numbers on terminals match with each other.

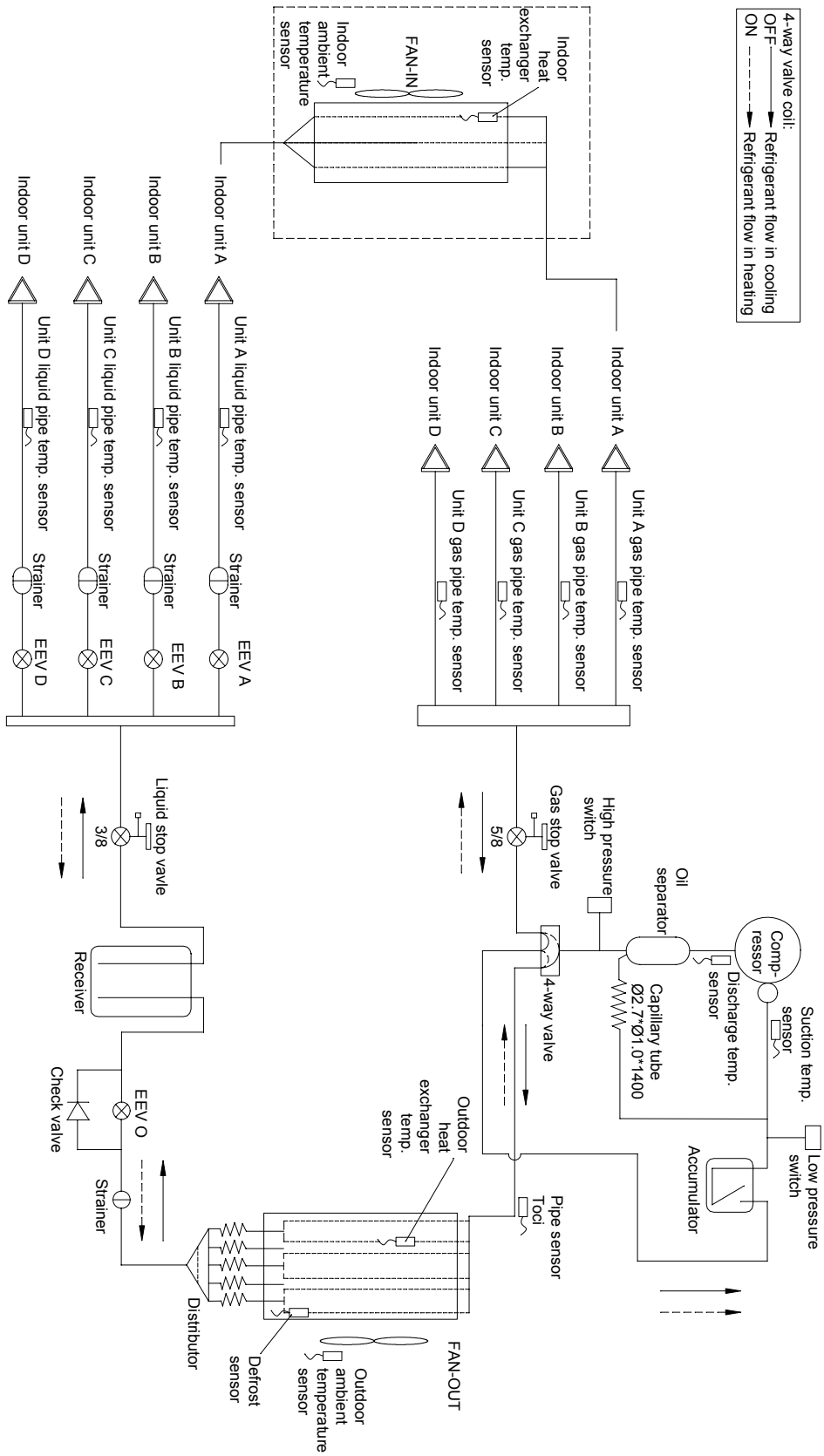


5.5 Piping Diagram

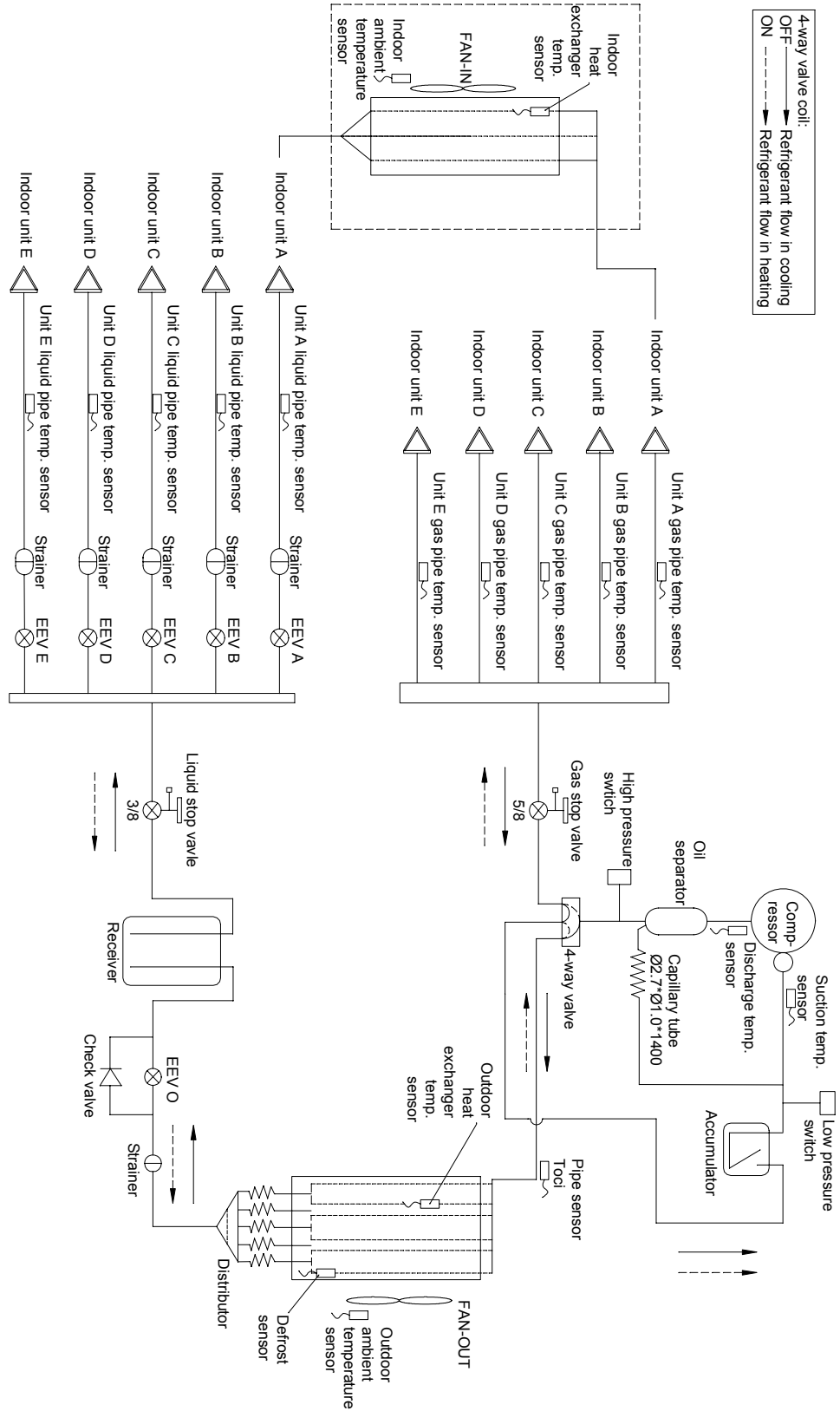
4TXM2318BF300AA 4TXM2324BF300AA



4TXM2330BF400AA

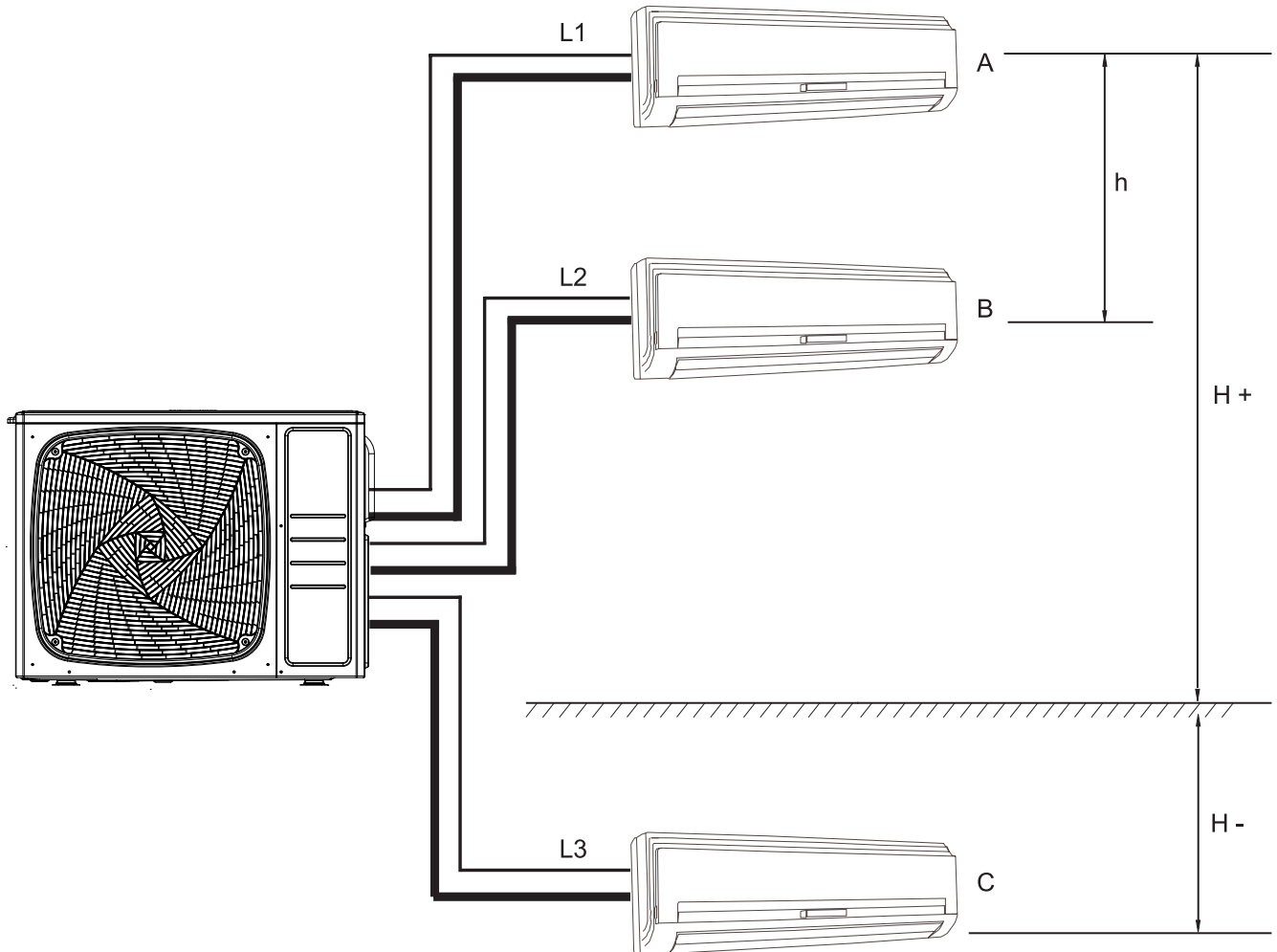


4TXM2336BF500AA 4TXM2342BF500AA



5.6 Limitation Values on Pipe Installation

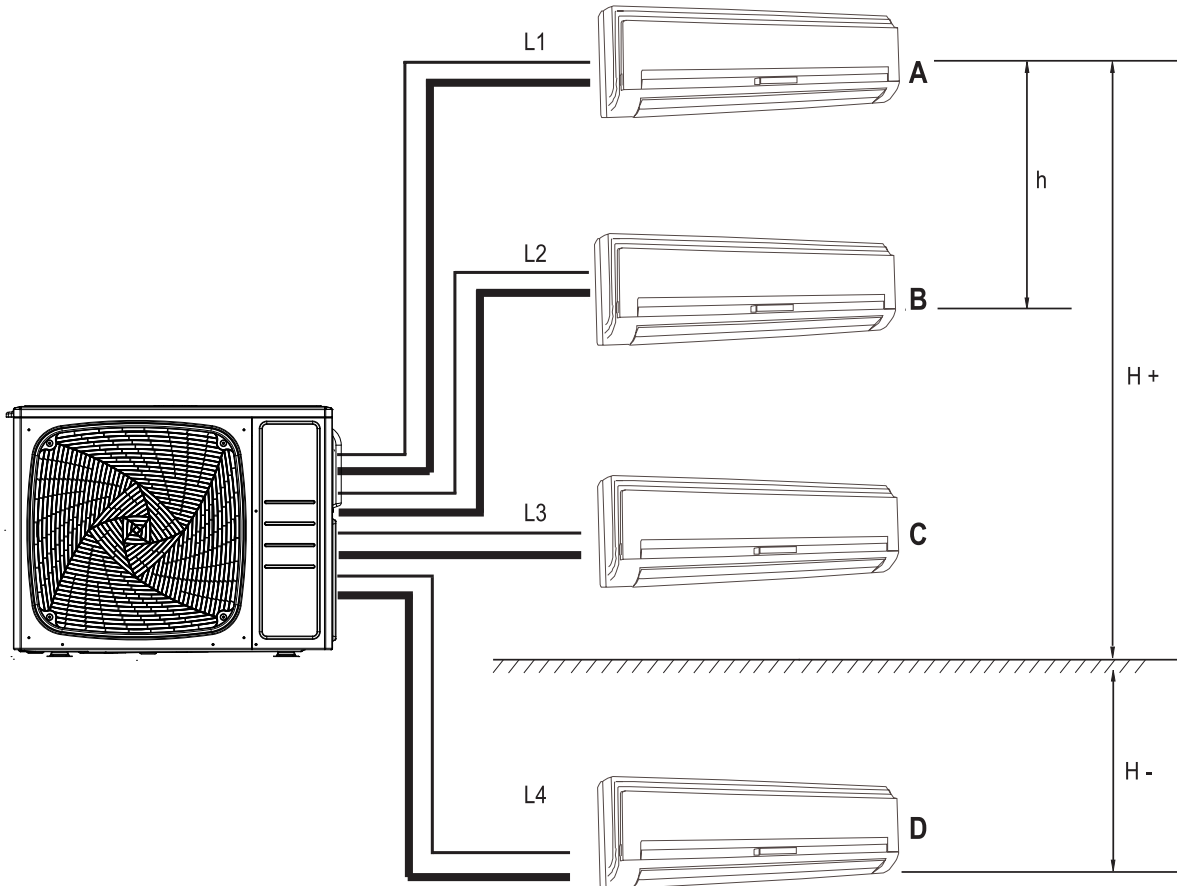
4TXM2318BF300AA 4TXM2324BF300AA



The piping length information, please refer the following table.

Item	Unit	Description	Standard	Maximum
A,B,C Liquid Pipe	mm	Size of the liquid side connection pipe	$\phi 6.35$	/
A,B,C Gas Pipe	mm	Size of the gas side connection pipe	$\phi 9.52$	/
L1 (One Way)	m	Max.piping length between IU and OU of the way	≤ 10	≤ 25
L2 (One Way)	m	Max.piping length between IU and OU of the way	≤ 10	≤ 25
L3 (One Way)	m	Max.piping length between IU and OU of the way	≤ 10	≤ 25
L1+L2+L3	m	Total liquid piping length	≤ 30	18BF<30 24BF<50
h	m	Drop between every two indoor units when the location of the outdoor unit is among indoor units	≤ 1	≤ 15
	m	Drop between every two indoor units when the location of the outdoor unit is at one side of indoor units	≤ 1	≤ 7.5
H+	m	Drop between the outdoor unit and the indoor unit	≤ 5	≤ 15
H-	m	Drop between the outdoor unit and the indoor unit when the location of outdoor unit is among the indoor units	≤ 5	≤ 7.5
	m	Drop between the outdoor unit and the indoor unit when the location of outdoor unit is at one side of indoor units	≤ 5	≤ 15

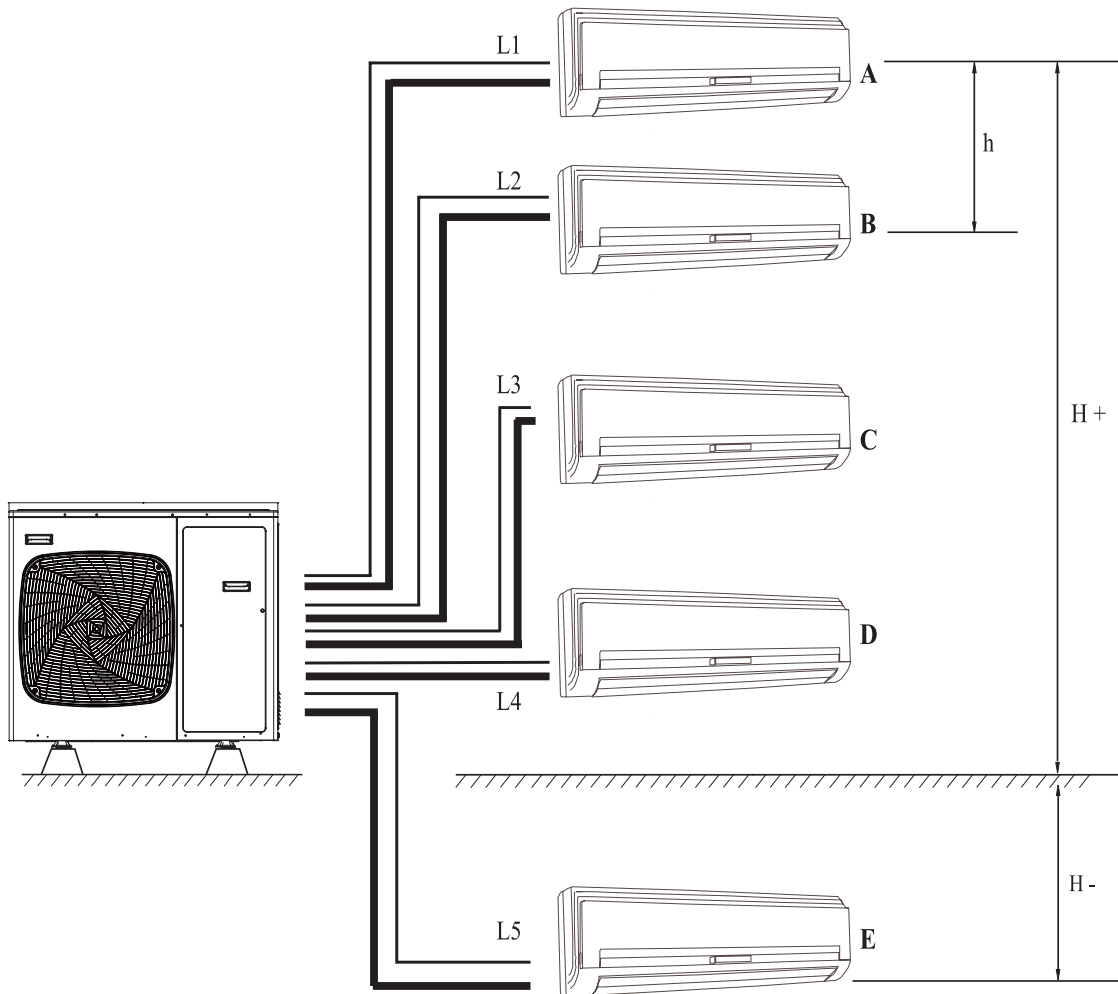
4TXM2330BF400AA



The piping length information, please refer the following table.

Item	Unit	Description	Standard	Maximum
A,B,C, D liquid Pipe	mm	Size of the liquid side connection pipe	φ6.35	/
A,B,C Gas Pipe	mm	Size of the gas side connection pipe	φ9.52	/
D Gas Pipe	mm	Size of the gas side connection pipe	φ12.7	/
L1 (One Way)	mm	Max. Piping length between IU and OU of the way	≤ 10	≤ 25
L2 (One Way)	m	Max. Piping length between IU and OU of the way	≤ 10	≤ 25
L3 (One Way)	m	Max. Piping length between IU and OU of the way	≤ 10	≤ 25
L4 (One Way)	m	Max. Piping length between IU and OU of the way	≤ 10	≤ 25
L1+L2+L3+L4	m	Total liquid piping length	≤ 40	≤ 50
h	m	Drop between every two indoor units when the location of the outdoor unit is among indoor units	≤ 1	≤ 15
	m	Drop between every two indoor units when the location of the outdoor unit is at one side of indoor units	≤ 1	≤ 7.5
H+	m	Drop between the outdoor unit and the indoor unit	≤ 5	≤ 15
H-	m	Drop between the outdoor unit and the indoor unit when the location of outdoor unit is among the indoor units	≤ 5	≤ 15
	m	Drop between the outdoor unit and the indoor unit when the location of outdoor unit is at one side of indoor units	≤ 5	≤ 15

4TXM2336BF500AA 4TXM2342BF500AA



The piping length information, please refer the following table.

Item	Unit	Description	Standard	Maximum
A,B,C,D,E liquid pipe	mm	Size of the liquid side connection pipe	φ6.35	/
A,B,C,D Gas pipe	mm	Size of the gas side connection pipe	φ9.52	/
E Gas pipe	mm	Size of the gas side connection pipe	φ12.7	/
L1 (one way)	m	Max.piping length between IU and OU of the way	≤ 10	≤ 25
L2 (one way)	m	Max.piping length between IU and OU of the way	≤ 10	≤ 25
L3 (one way)	m	Max.piping length between IU and OU of the way	≤ 10	≤ 25
L4 (one way)	m	Max.piping length between IU and OU of the way	≤ 10	≤ 25
L5 (one way)	m	Max.piping length between IU and OU of the way	≤ 10	≤ 25
L1+L2+L3+L4+L5	m	Total liquid piping length	≤ 40	≤ 80
h	m	Drop between every two indoor units when the location of the outdoor unit is among indoor units	≤ 1	≤ 15
	m	Drop between every two indoor units when the location of the outdoor unit is at one side of indoor units	≤ 1	≤ 7.5
H+	m	Drop between the outdoor unit and the indoor unit	≤ 5	≤ 15
H-	m	Drop between the outdoor unit and the indoor unit when the location of outdoor unit is among the indoor units	≤ 5	≤ 7.5
	m	Drop between the outdoor unit and the indoor unit when the location of outdoor unit is at one side of indoor units	≤ 5	≤ 15

5.7 Installation

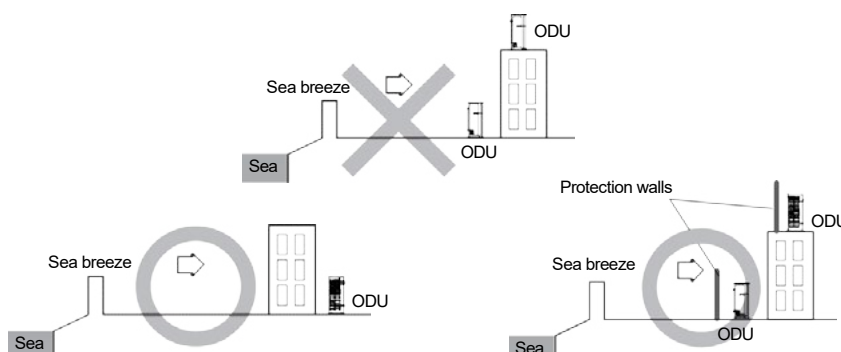
4TXM2318BF300AA 4TXM2324BF300AA 4TXM2330BF400AA 4TXM2336BF500AA 4TXM2342BF500AA

Procedure for Selecting the Location

- 1) Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- 2) Choose a location where the hot air discharged from the unit or the operation noise, will not cause a nuisance to the neighbors of the user.
- 3) Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- 4) There must be sufficient space for carrying the unit into and out of the site.
- 5) There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- 6) The site must be free from the possibility of flammable gas leakage in a nearby place. Locate the unit so that the noise and the discharged hot air will not annoy the neighbors.
- 7) Install units, power cords and inter-unit cables at least 10ft away from television and radio sets. This is to prevent interference to images and sounds. (Noises may be heard even if they are more than 10ft away depending on radio wave conditions.)
- 8) In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the air conditioner.
- 9) Since drain flows out of the outdoor unit, do not place under the unit anything which must be kept away from moisture.
- 10) On a flat surface that does not collect rain water.
- 11) Away from strong wind.
- 12) Away from direct exposure to rain or snow.
- 13) Away from sea breeze.
- 14) Away from inflammable materials.

Note:

- 1) *Cannot be installed hanging from ceiling or stacked.*
- 2) *If installing on a high place such as a roof, with a fence or guard rail around it.*
- 3) *If there is a potential for accumulated snow to block the air inlet or heat exchanger, install the unit on a higher base.*
- 4) *R-410A refrigerant is a safe, nontoxic and nonflammable refrigerant. However, if there is a concern about a dangerous level of refrigerant concentration in the case of refrigerant leakage, add extra ventilation.*
- 5) *Avoid installing the outdoor unit where corrosive gases, such as sulfur oxides, ammonia, and sulfurous gas, are produced. If unavoidable, consult with an installation specialist about using a corrosion-proof or anti-rust additive to protect the unit coils.*
- 6) *For seacoast applications, block the unit from direct exposure to sea breeze by installing the unit behind a structure (such as a building) or a protective wall that is 1.5 times higher than the unit, leaving 28 in. (700 mm) of space between the wall and unit for air circulation. Consult an installation expert about taking anti-corrosion measures, such as removing salinity on the heat exchanger and applying a rust inhibitor more frequently than once a year.*

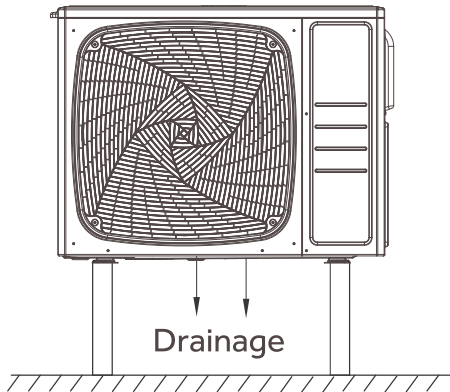


7) Set the unit on mounting brackets or pad. To avoid the adverse effects of snow, ice and defrosting issues, install the unit on heat pump risers to ensure a sufficient height from the ground. In all cases, refer to local code for correct riser height.

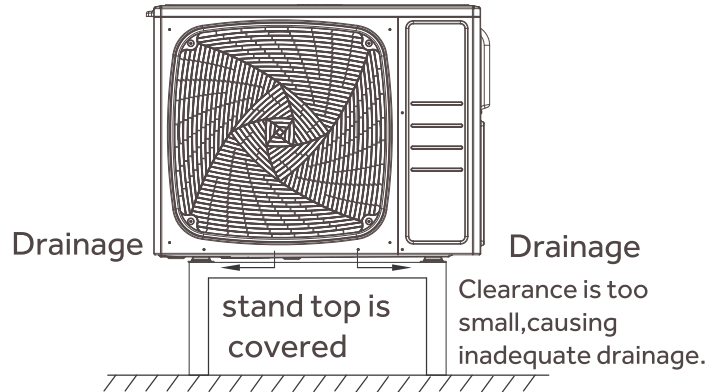
Make sure the outdoor unit is installed level and is stable.

Install snow protection hood as necessary.

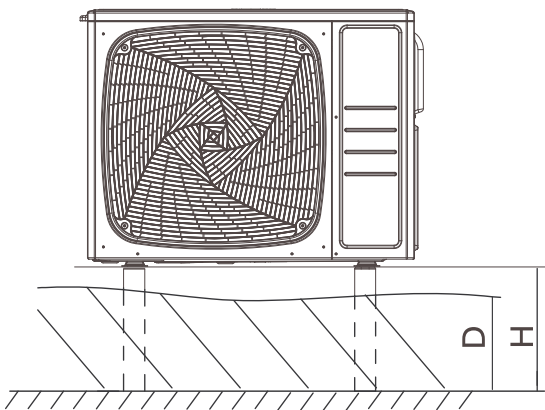
Correct installation



Wrong installation

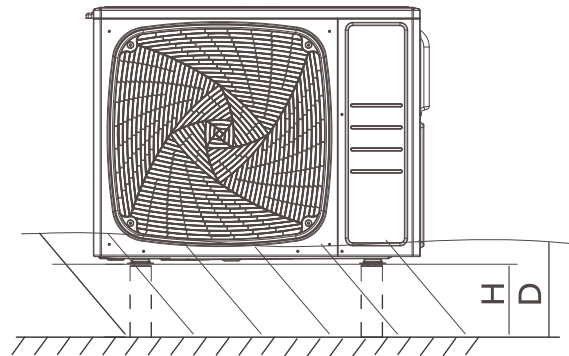


Correct installation



Minimum height (H) should be higher than the highest snowfall depth (D) ($H = D + 20\text{cm}$)

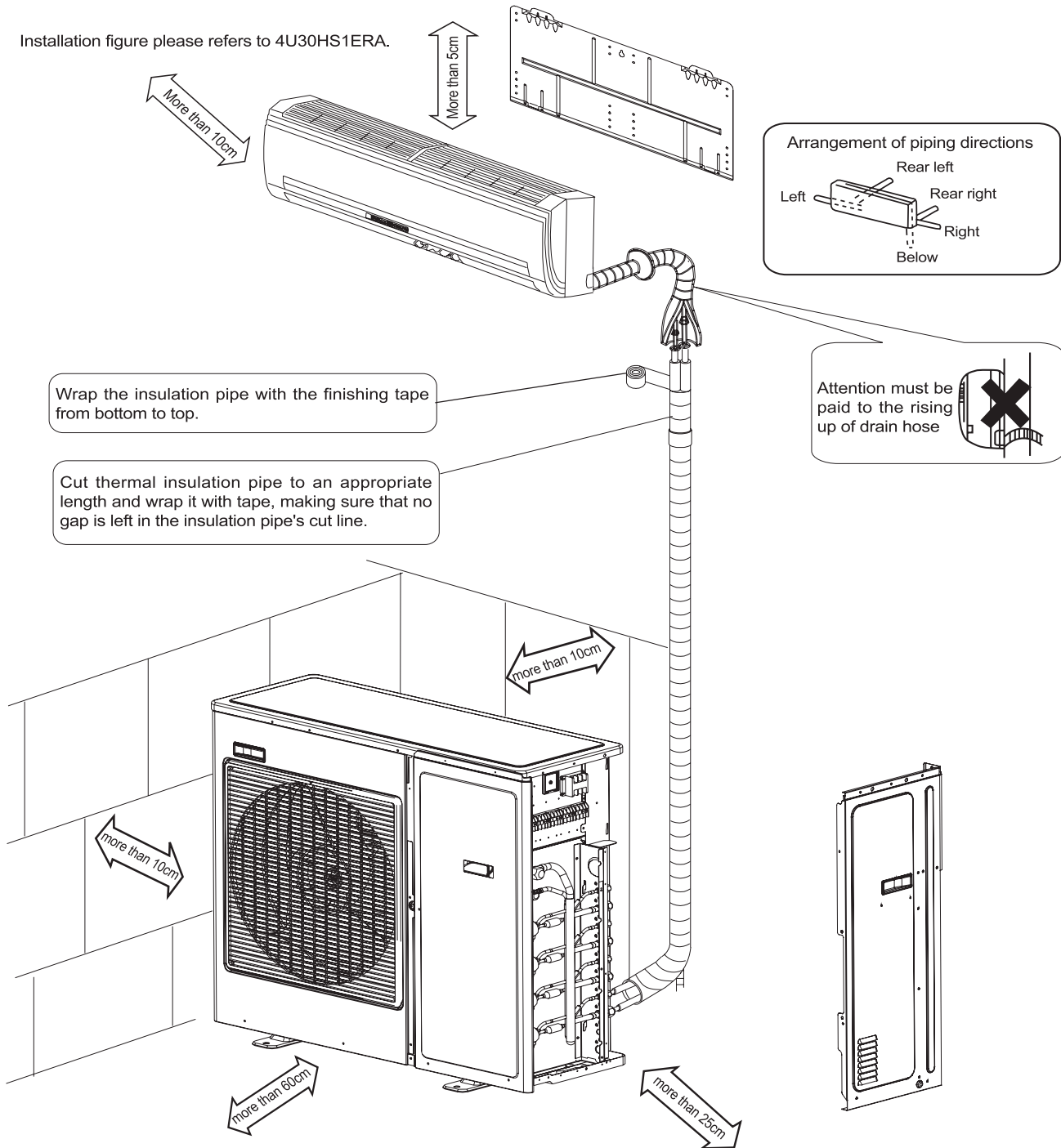
Wrong installation



unit may become covered in snow if the stand height is insufficient.

Installation drawings of indoor and outdoor units

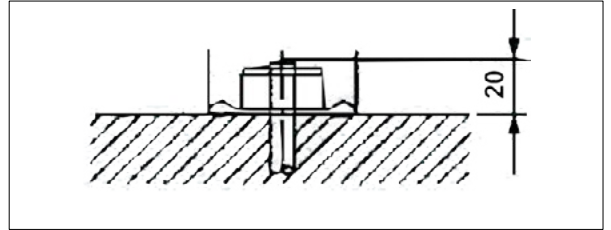
- 1 Do not connected the embedded branch piping and the outdoor unit when only carrying out piping work without connecting the indoor unit in order to add another indoor unit later. Make sure no dirt or moisture gets into either side of the embedded branch piping.
2. It is impossible to connect the indoor unit for one room only.



If there is the danger of the unit falling or overturning, fix the unit with foundation bolts, or with wire or other means. If the location does not have good drainage, place the unit on a level mounting base(or a plastic pedestal). Install the outdoor unit in a level position. Failure to do so may result in water leakage or accumulation.

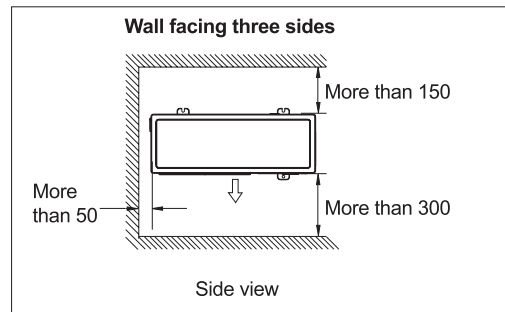
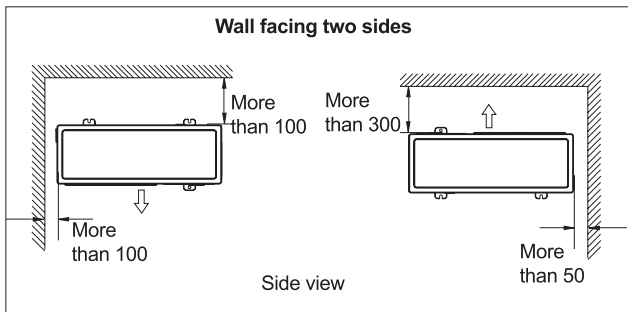
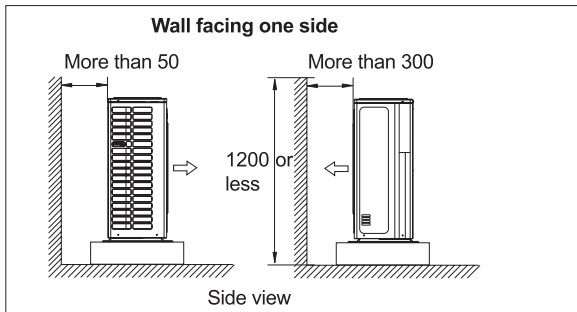
Precautions on Installation

- Check the strength and level of the installation ground so that the unit will not cause any operating vibration or noise after installed.
- In accordance with the foundation drawing in fix the unit securely by means of the foundation bolts. (Prepare four sets of M8 or M10 foundation bolts, nuts and washers each which are available on the market.)
- It is best to screw in the foundation bolts until their length are 20mm from the foundation surface.



Outdoor Unit Installation Guideline

- Where a wall or other obstacle is in the path of outdoor unit's intake or exhaust airflow, follow the installation guidelines below.
- For any of the below installation patters, the wall height on the exhaust side should be 1200mm or less.



Limitations on the installation

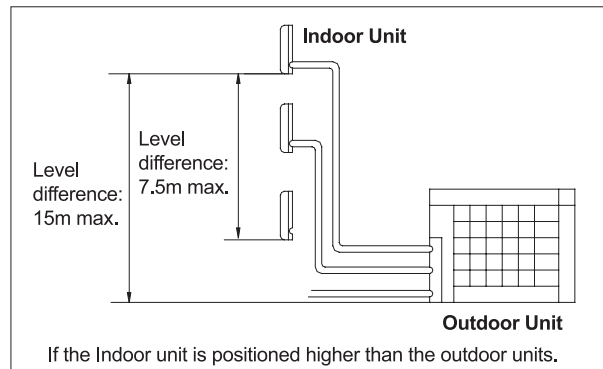
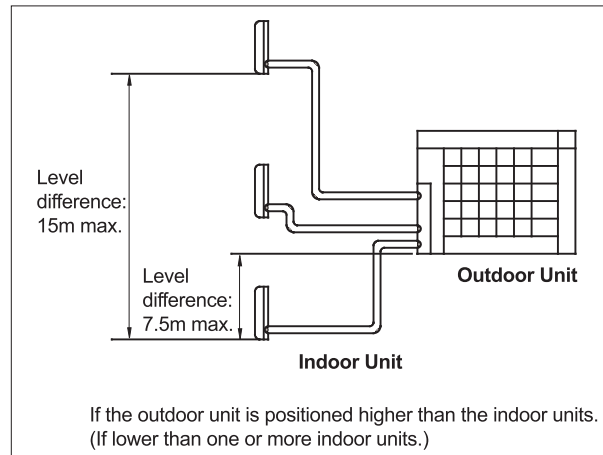
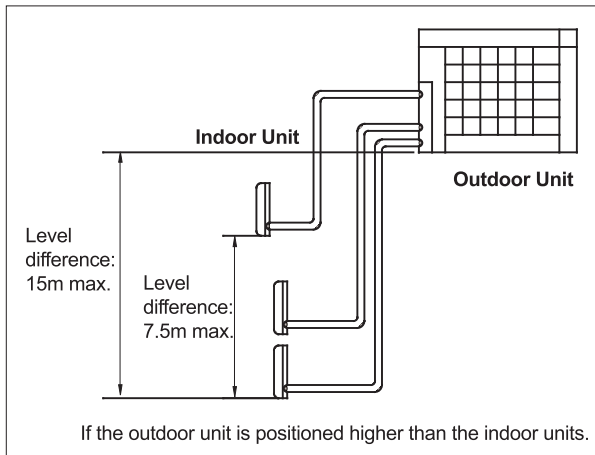
1. Precautions on installation

- Check the strength and level of the installation ground so that unit will not cause any operating vibration or noise after installation. In accordance with the foundation drawing in fix the unit securely by means of the foundation bolts.
- It is best to screw in the foundation bolts unit their length are 20 mm from the foundation surface.

2. Selecting a location for installation of the indoor units

- The maximum allowable length of refrigerant piping, and the maximum allowable height difference between the outdoor and indoor units, are listed below. (The shorter the refrigerant piping, the better the performance. Connect so that the piping is as short as possible. Shortest allowable length per room is 3m)

Outdoor unit capacity class	4TXM2318BF300AA	4TXM2324BF300AA	4TXM2330BF400AA	4TXM2336BF500AA	4TXM2342BF500AA
Piping to each indoor unit	25m max.	25m max.	25m max.	25m max.	25m max.
Total length of piping between all units	30m max.	50m max.	50m max.	80m max.	80m max.



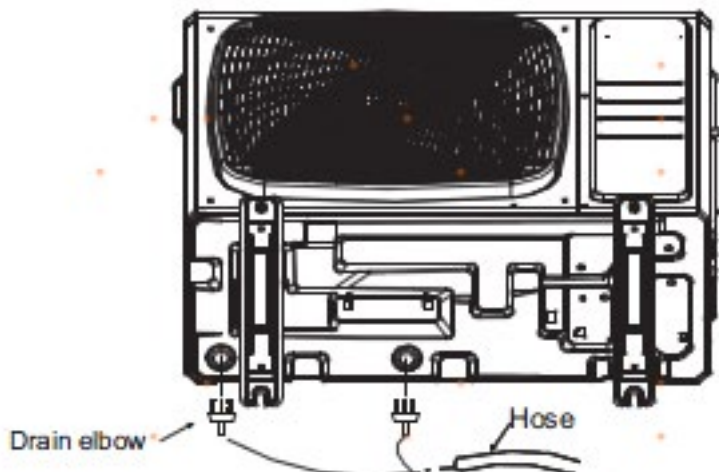
Refrigerant piping work

1. Installing outdoor unit

- 1) When installing the outdoor unit, refer to "Precautions for Selecting the Location" and the "Indoor/Outdoor Unit Installation Drawings".
- 2) If drain work is necessary, follow the procedures below.

2. Drain work

- 1) Use drain plug for drainage.
- 2) If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 30mm in height under the outdoor unit's feet.
- 3) In cold areas, do not use a drain hose with the outdoor unit. (Otherwise, drain water may freeze, impairing heating performance.)



Safety Principles

- The power supply should be cut off before the maintenance.
- During product maintenance, favorable ventilation shall be guaranteed at the maintenance site, and the close of all the doors/windows is not allowed.
- Operation with open fire is not allowed, including welding and smoking. The use of phones is also not allowed. The user shall be informed that cooking with open fire is not allowed.
- During maintenance in a dry season, when the relative humidity is less than 40%, anti-static measures shall be taken, including the wearing of cotton clothes and cotton gloves.
- In case the leakage of flammable refrigerant is identified during maintenance, forced ventilation measures shall be taken immediately, and the source of leak shall be plugged.
- In case the product damaged must be maintained by disassembling the refrigeration system, the product must be delivered to the maintenance point. Welding of refrigerant pipelines at the user's site is not allowed.
- During maintenance, in case re-treatment is required due to lack of fittings, the air conditioner shall be reset.
- The refrigeration system must be safely earthed in the whole course of maintenance.
- For the door-to-door service with refrigerant cylinders, the refrigerant charged inside the cylinder cannot exceed the specified value. The cylinder placed in vehicles or at the installation/maintenance site shall be fixed perpendicularly and be kept away from heat sources, ignition source, source of radiation and electric appliance.

Maintenance Items

Maintenance Requirements

- Before the refrigeration system is operated, the circulating system shall be cleaned with nitrogen. Afterwards, the outdoor unit shall be vacuumized, the duration of which cannot be less than 30 minutes. Finally, 1.5-2.0MPa OFN shall be used for nitrogen flushing (30 seconds-1 minute), to confirm the position requiring treatment. Maintenance of the refrigeration system is only allowed after the residual gas of flammable refrigerant is removed.
- During the use of refrigerant charging tools, cross contamination of different refrigerants shall be avoided. The total length(including the refrigerant pipelines) shall be shortened as much as possible, to reduce the residual of refrigerant inside.
- The cylinders of refrigerant shall be kept upright, and be fixed.
- Before refrigerant charging, the refrigeration system shall be earthed.
- The refrigerant charged shall be of the type and volume specified on the nameplate. Excessive charging is not allowed.
- After maintenance of the refrigeration system, the system shall be sealed with a safe manner.
- The maintenance in progress shall not damage or lower the original class of safety protection of the system.

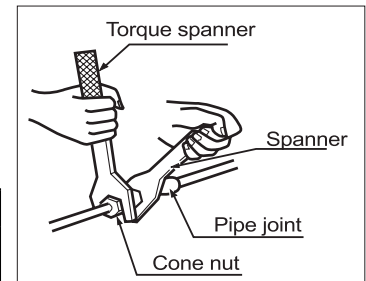
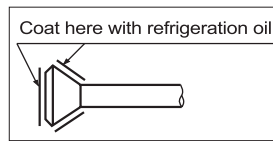
Maintenance of Electrical Components

- Partial of the electrical component under maintenance shall be subject to inspection on refrigerant leakage with dedicated leak detection equipment.
- After the maintenance, the components with safety protection functions cannot be disassembled or removed.
- During the maintenance of sealing elements, before opening the seal cover, the air conditioner shall be powered off first. When power supply is required, continuous leak detection shall be carried out at the most dangerous position to avoid potential risks.
- During maintenance of electrical components, the replacement of enclosures shall not affect the level of protection.
- After maintenance, it shall be guaranteed that the sealing functions will not be damaged or the sealing materials will not lose the function of preventing the entry of flammable gas due to aging. The substitute components shall meet the recommended requirements of the air conditioner manufacturer.

3. Refrigerant piping work

1). Align the centers of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the tor wrenches. Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and escaping gas.

Flare nut tightening torque	
Flare nut for Ø6.35	14.2-17.2N.m (144-175kgf.cm)
Flare nut for Ø9.52	32.7-39.9N.m (333-407kgf.cm)
Flare nut for Ø12.7	49.5-60.3N.m (505-615kgf.cm)
Flare nut for Ø15.88	61.8-75.4N.m (630-769kgf.cm)



Valve cap tightening torque	Service port cap tightening torque
Liquid pipe 26.5-32.3N.m(270-330kgf.cm)	10.8-14.7N.m(110-150kgf.cm)
Gas pipe 48.1-59.7N.m(490-610kgf.cm)	

2) To prevent gas leakage, apply refrigeration oil on both inner and outer surfaces of the flare. (Use refrigeration oil for R410A)

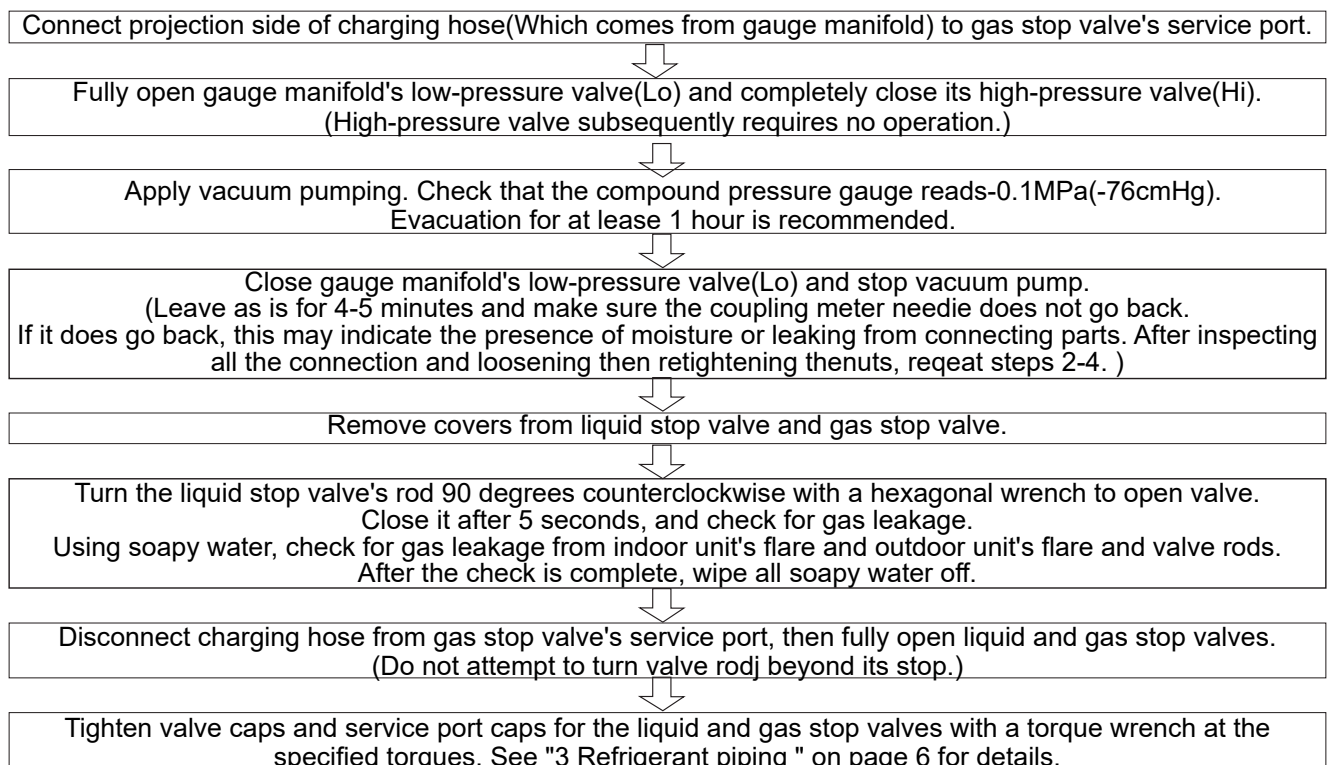
4. Purging air and checking gas leakage

When piping work is completed, it is necessary to purge the air and check for gas leakage.

⚠ WARNING

- 1) Do not mix any substance other than the specified refrigerant (R410A) into the refrigeration cycle.
- 2) When refrigerant gas leaks occur, ventilate the room as soon and as much as possible.
- 3) R410A, as well as other refrigerants, should always be recovered and never be released directly into the environment.
- 4) Use a vacuum pump for R410A exclusively. Using the same vacuum pump for different refrigerents may damage the vacuun pump or the unit.

- If using additional refrigerant, perform air purging from the refrigerant pipes and indoor unit using a vacuum pump, then charge additional refrigerant.
- Use a hexagonal wrench (4mm) to operate the stop valve rod.
- All refrigerant pipe joints should be tightened with a torque wrench at the specified tightening torque.



5. Refilling the refrigerant

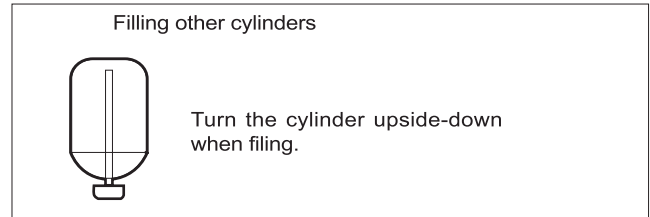
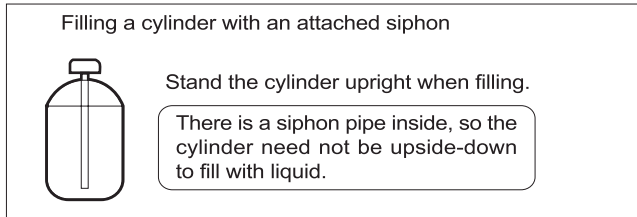
Check the type of refrigerant to be used on the machine nameplate.

Precautions when adding R410A

Fill from the liquid pipe in liquid form.

It is a mixed refrigerant, so adding it in gas form may cause the refrigerant composition to change, preventing normal operation.

- 1) Before filling, check whether the cylinder has a siphon attached or not. (It should have something like "liquid filling siphon attached" displayed on it.)



- 2) Be sure to use the R410A tools to ensure pressure and to prevent foreign objects entering.

6. Charging with refrigerant

- 1) This system must use refrigerant R410A.
- 2) Add refrigerant 20g per meter when the total piping length exceeds the standard value, but make sure that the total liquid piping length should be less than the max. value. 5U45LS1ERA charge 28g/m refrigerant for extra pipe length

Outdoor unit	Standard total liquid piping length	Max. total liquid piping length
4TXM2318BF300AA	30m	30m
4TXM2324BF300AA	30m	50m
4TXM2330BF400AA	40m	50m
4TXM2336BF500AA	40m	80m
4TXM2342BF500AA	40m	80m

Notes:

- 1) When using this product, you need not to set the address. But the L/N wires between indoor & outdoor units must be corresponded, or there will be communication failure.
- 2) Quiet operation setting. Set the DIP "8" to ON position of SW5, the system will run with lower noise, but the max. capacity will also reduce slightly.
- 3) Do not change the settings of other switches, wrong settings can make the system damage or other malfunctions.

7. Precautions for Laying Refrigerant

• Piping cautions on pipe handling

- 1) Protect the open end of the pipe against dust and moisture.
- 2) All pipe bends should be as gentle as possible. Use a pipe bender for bending. (Bending radius should be 30 to 40mm or larger.)

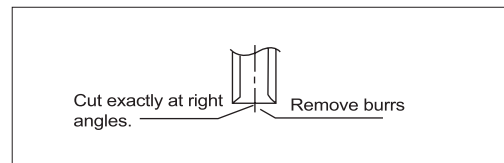
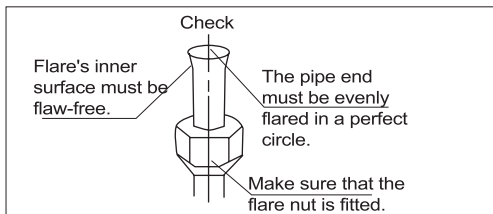
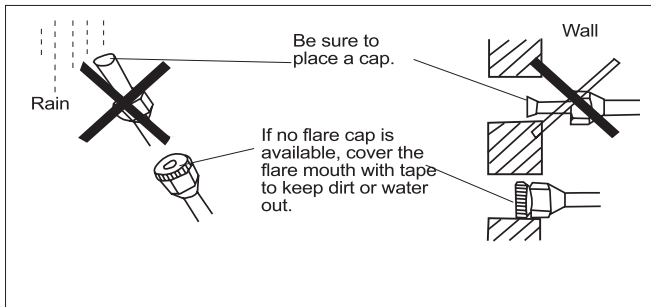
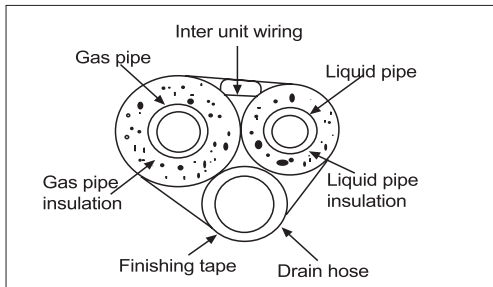
• Selection of copper and heat insulation materials

When using commercial copper pipes and fittings, observe the following :

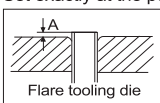
- 1) Insulation material: Polyethylene foam
Heat transfer rate: 0.041 to 0.052W/mK(0.035to 0.045kcal/mhoC) Refrigerant gas pipe's surface temperature reaches 110oC max. Choose heat insulation materials that will withstand this temperature.
- 2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

Gas pipe	Gas pipe insulation
O.D.:9.52mm, 12.7mm Thickness:0.8mm	I.D.:12-15mm, 12.7mm Thickness:13mm min.
Liquid pipe	Liquid pipe insulation
O.D.:6.35mm Thickness:0.8mm	I.D.:18-10mm Thickness:10mm min.

3) Use separate thermal insulation pipes for gas and liquid refrigerant pipe

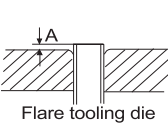







Set exactly at the position shown below.

 Flare tooling die	Flare tool for R410A	Conventional flare tool	
	Clutch-type	Clutch-type(Rigid-type)	Wing-nuttype(Imperial-type)
	0-0.5mm	1.0-1.5mm	1.5-2.0mm

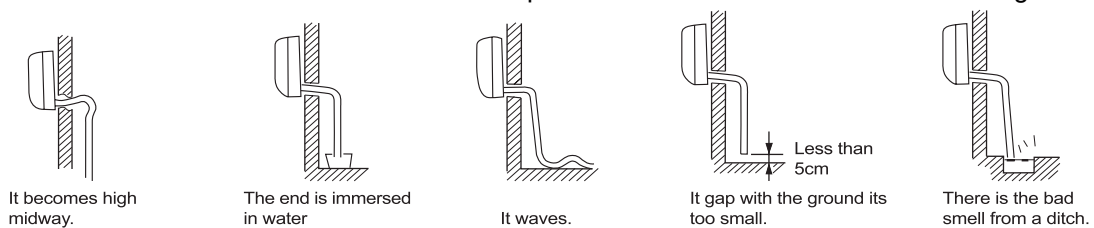
8. Cutting and Flaring work of piping

- Pipe cutting is carried out with a pipe cutter and burrs must be removed.
- After inserting the flare nut, flaring work is carried out.

 Flare tooling die	Pipe	Pipe diameter	Size A (mm)	Correct	Incorrect				
	Liquid side	6.35mm(1/4")	0.8~1.5						
Gas side	9.52mm(3/8")	1.0~1.5							
	12.7mm(1/2")	1.0~1.5							

9. On drainage

- Please install the drain hose so as to be downward slope without fail. Please don't do the drainage as shown below.



- Please pour water in the drain pan of the indoor unit, and confirm that drainage is carried out serely to outdoor.
- In case that the attached drain hose is in a room, please apply heat insulation to it without fail.

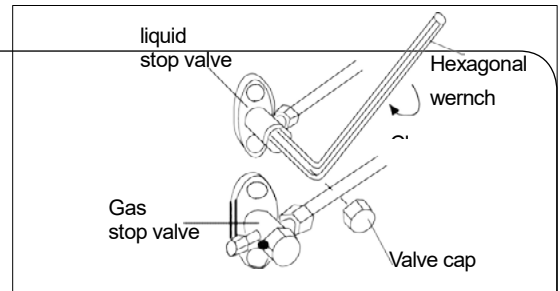
⚠ WARNING

- 1) Do not use mineral oil on flared part.
- 2) Prevent mineral oil from getting into the system as this would educe the lifetime of the units.
- 3) Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.
- 4) Do never install a drier to this R410A unit in order to guarantee its lifetime.
- 5) The drying material may dissolve and damage the system.
- 6) Incom;ete flaring may cause refrigerant gas leakage.

Pump Down Operation

In order to protect the environment, be sure to pump down when relocating or disposing of the unit.

- 1) Remove the valve caps from liquid stop valve and gas stop valve.
- 2) Carry out forced cooling operation.
- 3) After five to ten minutes, close the liquid stop valve with a hexagonal wrench.
- 4) After two to three minutes, close the gas stop valve and stop forced cooling operation.



Wiring work

1. Electric wiring

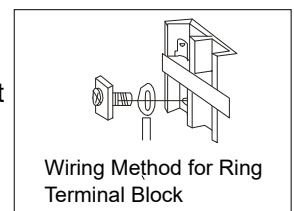
- The air conditioner must use special circuit, and wiring by the qualified electrician according to the wiring rules specified in national standard.
- The grounding wire and the neutral wire shall be strictly separated. Connect the neutral wire with grounding wire is incorrect. The electric leakage breaker must be installed.
- All the electric wire must be copper wire. Power supply: 1PH, 220-230V~, 50Hz.
- The wiring method of power line is Y connection. If the power line is damaged, in order to avoid risk of electric shock, it must be replaced by the manufacturer or its repair center or other similar qualified person. The connecting cable must be shielded.

Fuse: T3.15A 250VAC(Electronic control unit) T25A 250VAC(Power circuit board). Please check the circuit diagram about the fuse replaced.

2. Wiring method

• Wiring method of orbicular terminals

For the connection wire with orbicular terminals, its wiring method is as shown in the right figure: remove the connecting screw, put the screw through the ring on the end of the wire, then connect to the terminal block and fasten screw.

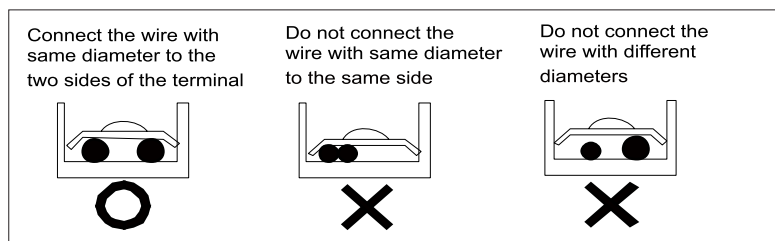
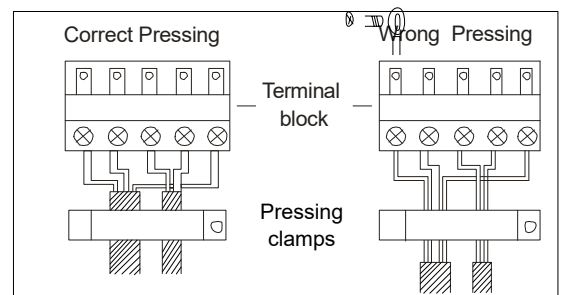


Wiring method of straight terminals.

- For the connection wire without orbicular terminals, its wiring method is: loosen the connection screw, and insert the end of the connection wire completely into the Terminal block, then fasten the screw.

Slightly pull the wire outwards to confirm it is firmly held.

- Crimp connection method for wires without terminals



- Crimp connection method for connection wire

After connection, the wire must be fastened by wire cover. The wire cover shall press on the protection coat of the connection wire, as shown in right top figure.

Note:

When connecting the wiring, confirm the terminal number of indoor and outdoor units carefully. Incorrect wiring will damage the controller of air conditioner or the unit can not operate.

3. Wiring method of outdoor unit:

- Power line

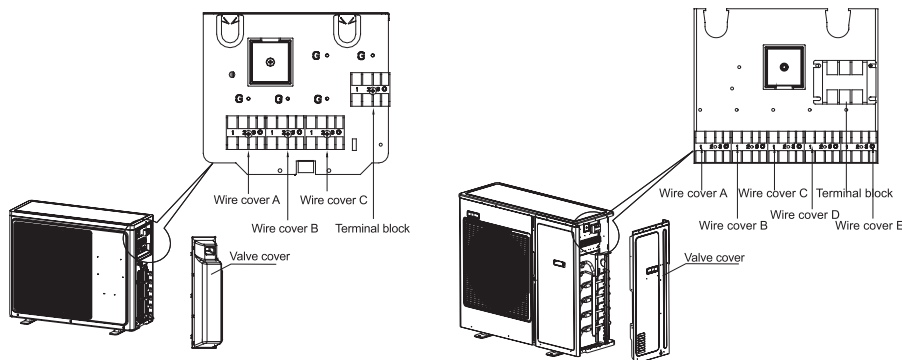
Remove the repair board of the outdoor unit and loosen the wire cover A, then put the live wire, neutral wire and grounding wire through the wire cover, and connect them to terminal block correspondingly. After connection, fasten wire cover to its previous state.

- Communication wire of indoor unit.

Loosen wire cover, put the communication wire through the wire cover B, and connect them to terminal block correspondingly. After connection, fasten wire cover B to its previous state.

Note:

Power line and communication wire are provided by consumers themselves.



4. Wiring method of indoor unit

Loosen wire cover and connect the power line and communication wire of indoor unit to the terminal correspondingly.

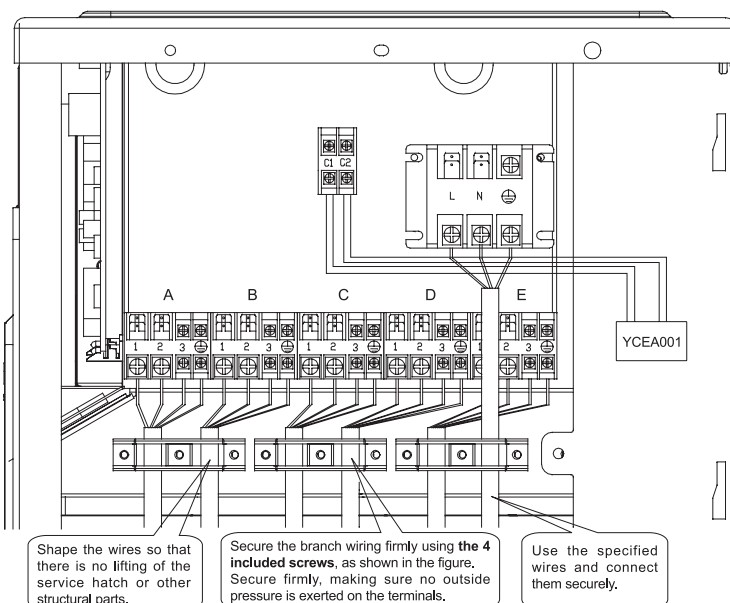
Note:

When connecting power line to power supply terminal, please pay attention to the following items:

- Do not connect the power line with different dimensions to the same connection wire end. Improper contact will cause heat generation.
- Do not connect the power line with different dimensions to the same grounding wire end. Improper contact will affect protection.
- Do not connect the power line to the connecting end of communication wire. Incorrect connection will cause damage to the connected unit.

5. Example wiring diagram.

Wiring diagram please refers to 5U34HS1ERA



Test running

- Before starting the test running, please confirm the following works have been done successfully.
 - 1) Correct piping work;
 - 2) Correct wiring work;
 - 3) Correct match of indoor and outdoor unit;
 - 4) Proper recharge of refrigerant if needed. Make sure that all the stop valves are fully open.
- Check the voltage supplied to the outdoor and indoor units, please confirm that is 230V.
- Wiring Error Check

This product is capable of automatic checking of wiring error.

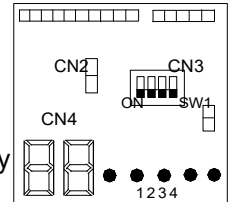
Switch on all the 4 dip-switches on the outdoor unit small service PC-board as shown on the right. Then power off the unit and power on again, the system will enter the operation of "Wiring Error Check". After 3 minutes stand-by, the unit starts for automatic wiring checking.

Approximately 30 ~ 50minutes (depends on how many units installed in the system) after the unit starts, the Errors of the wiring will be shown by the LEDs (1 to 5).

During this operation, the digital-number will alternately show the compressor working frequency (e.g. 50 stands for the current running frequency) and letter "CH"(means checking).

After this operation, if all the wiring is correct, the digital-number will show "0", if there has wrong wiring, the digital-number will show "EC"(error connection) and also it will flashing.

The service monitor LEDs indicate the error of wiring, as shown in the table below. For details about how to read the LED display, refer to the service manual.



If self-checking is not possible, check the indoor unit wiring and piping in the usual manner.

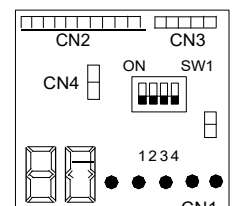
LED	1	2	3	4	5	Message
Status	OFF					Unit not connected
	All flashing					Automatic checking impossible all unit connect wrong
	All on					All units connect correctly
	On	Flashing	Flashing	On	Flashing	ON: unit connect correctly Flashing: unit connect wrong need to change the wiring manually between 2,3 and 5
	On	Flashing	Flashing	On	On	ON: unit connect correctly Flashing: unit connect wrong need to change the wiring manually between 2,3
	Only one LED flashing					Abnormal

• Test running.

- 1) If the temperature is lower than 16 OC, it is impossible to test cooling with remote controller, and also when the temperature is higher than 30 OC, it is impossible to test heating.
- 2) To test cooling, set the lowest temperature at 16 OC. To test heating, set the highest temperature, at 30 OC.
- 3) Please check both cooling and heating operation of each unit individually and then also check the simultaneous operation of all indoor units.
- 4) After running the unit for about 20 minutes, check the indoor unit outlet temperature.
- 5) After the unit is stopped, or working mode changed, the system will not start again for about 3 minutes.
- 6) During cooling operation, frost may occur on the indoor unit or pipes, this is normal.
- 7) Operate the unit according to the operation manual. Please kindly explain to our customers how to operate through the instruction manual.

• Seven-segment numeric display

- 1) When unit is running, this seven-segment numeric will display the frequency of compressor. For example, "40" means compressor running frequency is 40 Hz, "108" means compressor running frequency is 108Hz.
- 2) When faulty happens, seven-segment numeric will flash and display some numbers, this number is failure code. For example, a flashing "32" means No.32 failure, that is indoor and outdoor communication error.



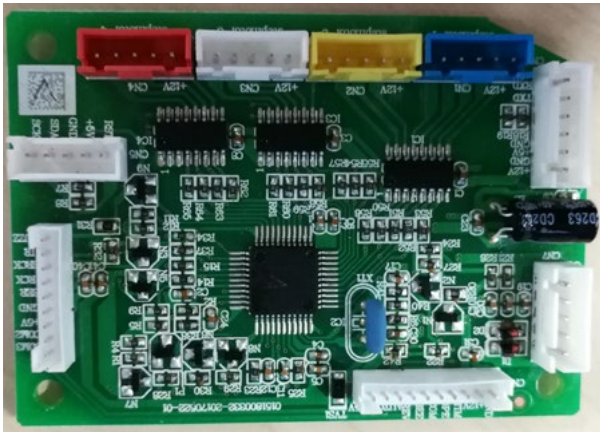
• Communication LED

5 green LED means 5 indoor units. If one LED keep lighting that means the corresponding indoor unit has good communication with outdoor unit. If one LED is not lighting, that means there is no communication between indoor and outdoor.

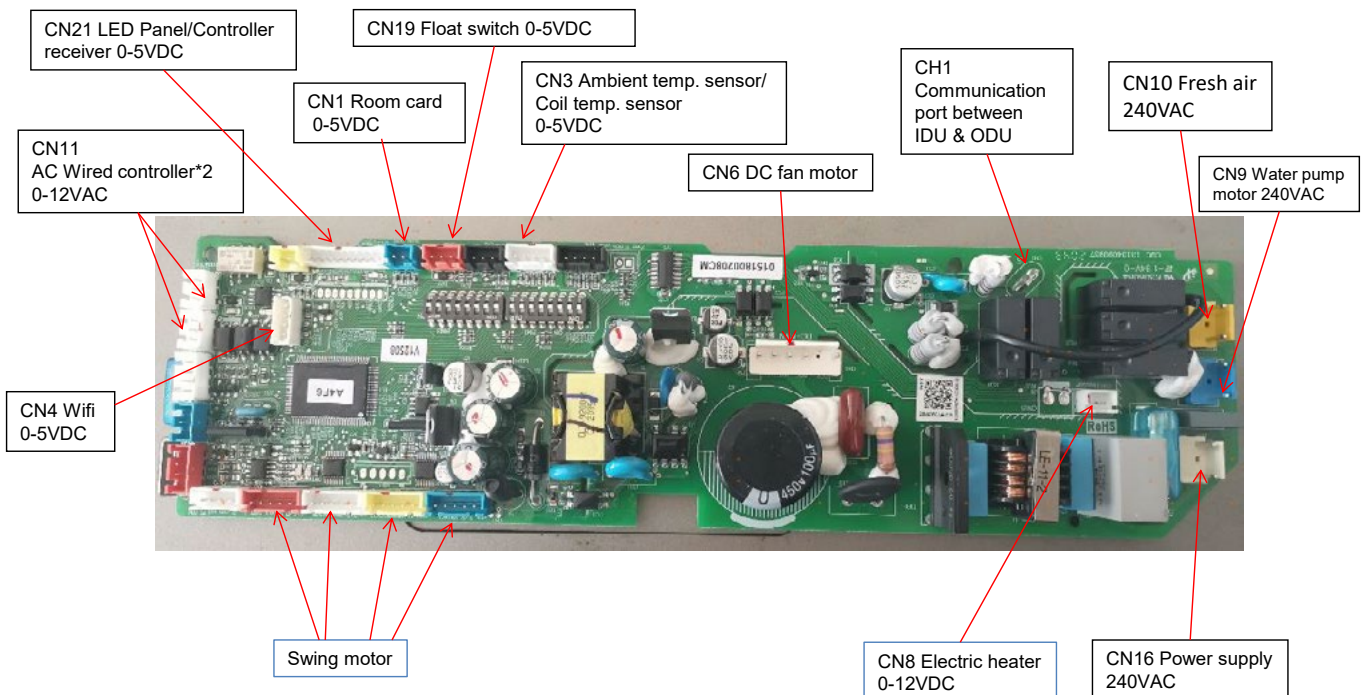
Part 6 Electric Control and Troubleshooting

6.1 PCB PHOTO

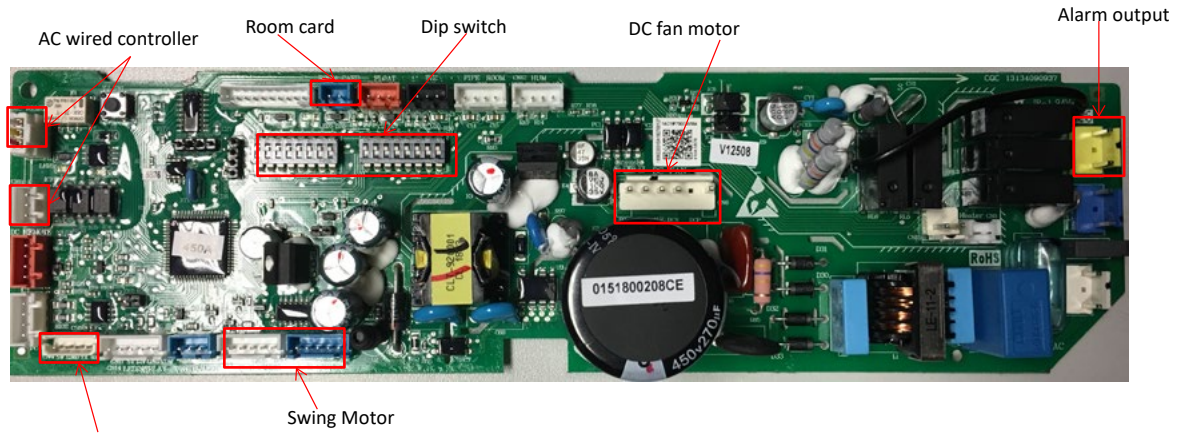
4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA (Manufactured before 6th May, 2021)
PCB (0151800244AE+0151800332)



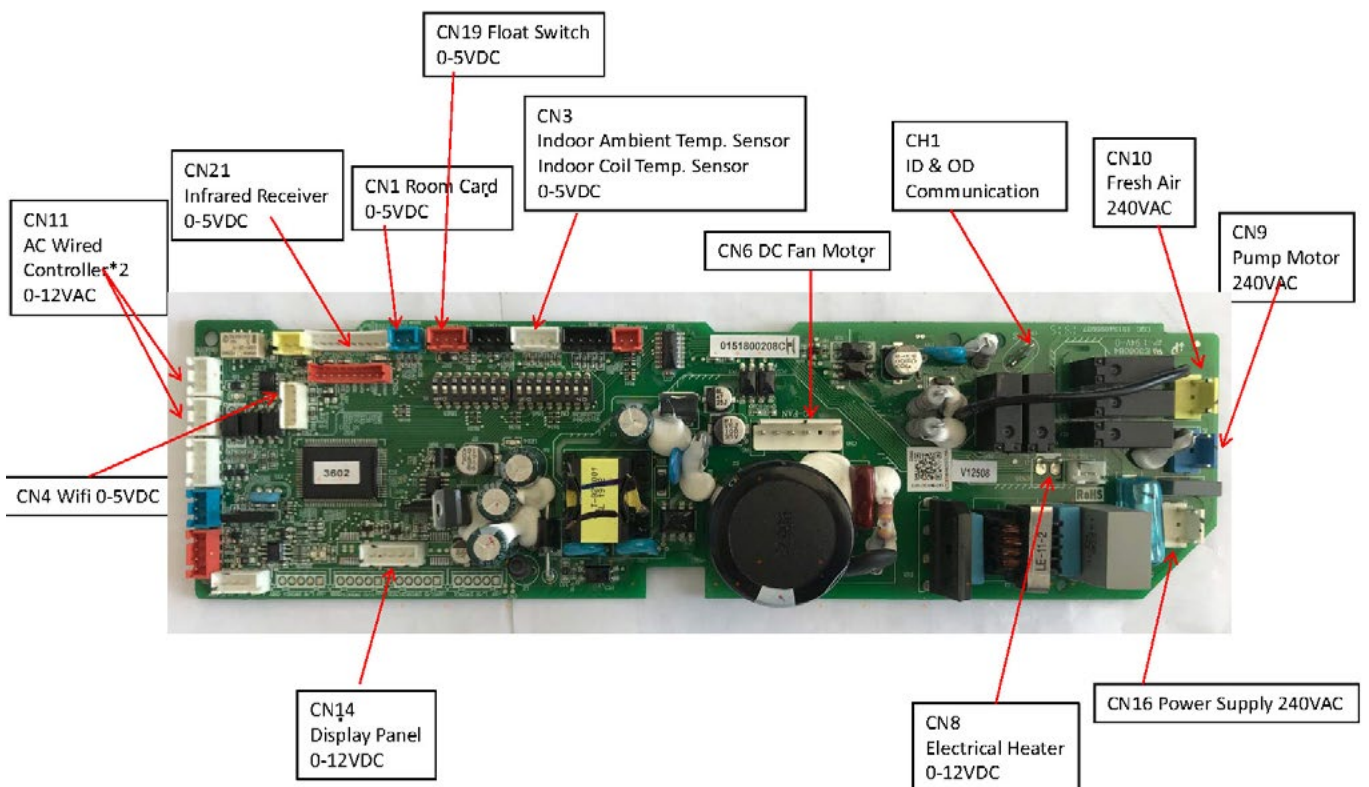
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PCB(0151800208CM)



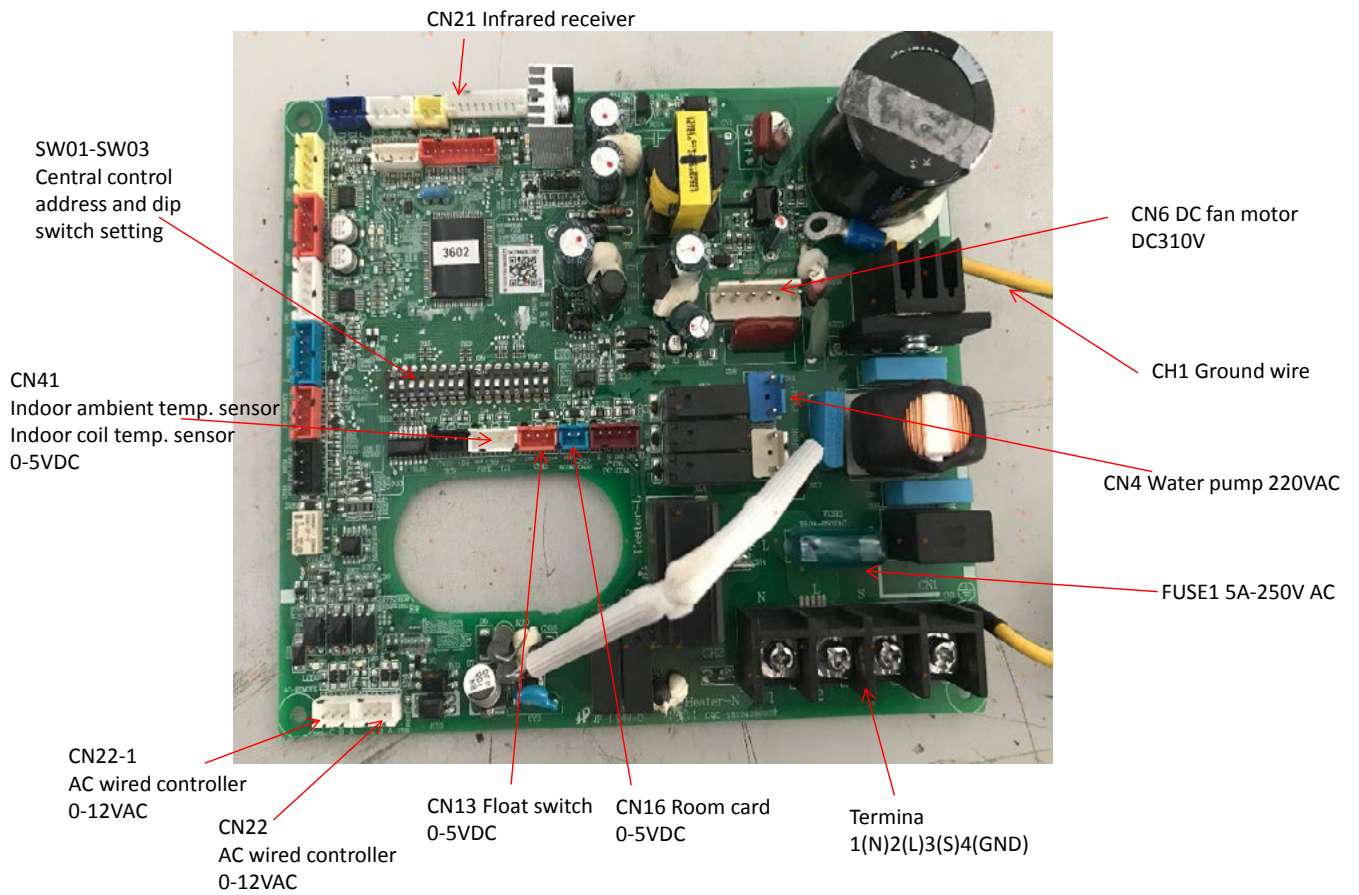
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PCB (0151800208CE)



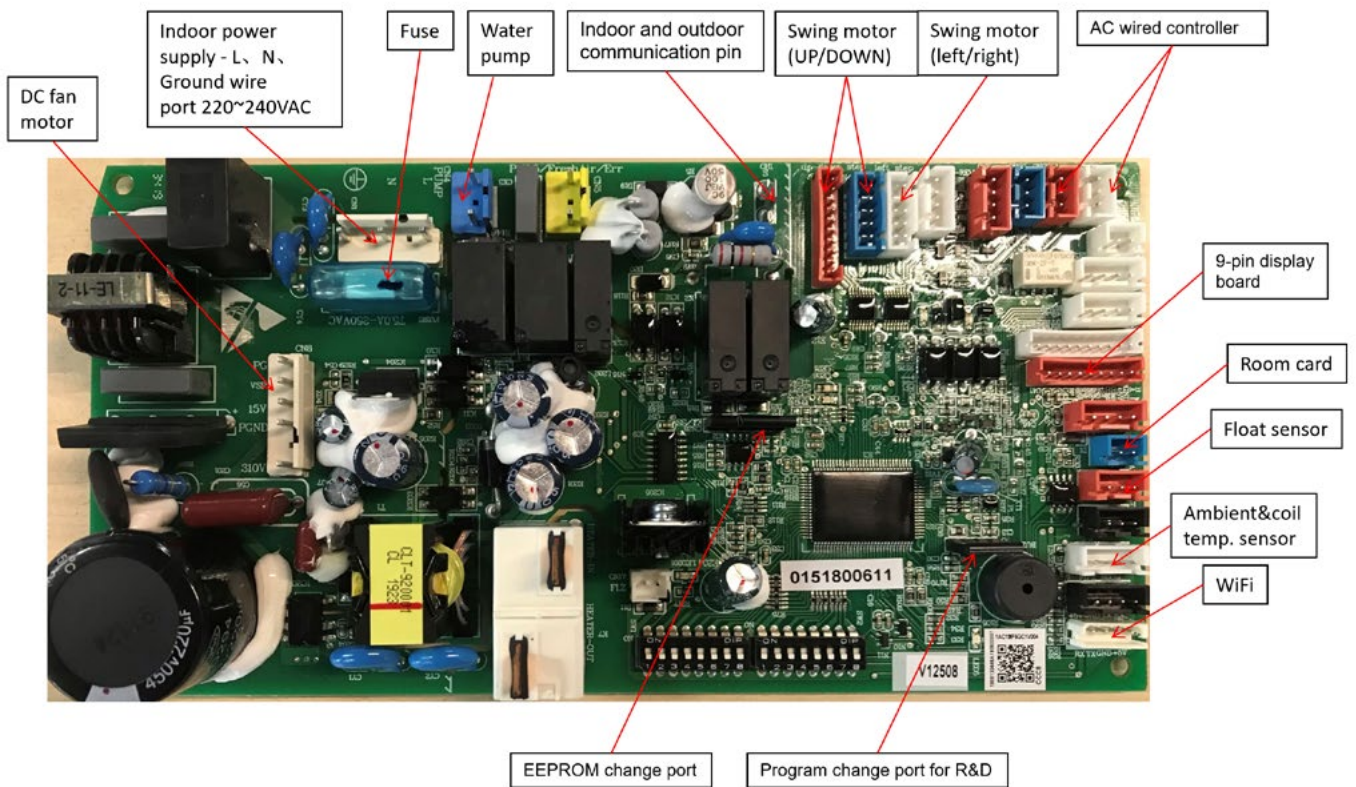
4MXC2324BF0W0AA (Manufactured after 6th May, 2021)
PCB CODE 0151800208CF



4MXD2309BF0R0AA 4MXD2312BF0R0AA 4MXD2318BF0R0AA 4MXD2324BF0R0AA
 PCB(0151800644 (Manufactured after Nov. 2020)



PCB(0151800611) 4MXE2309BF0W0AA 4MXE2312BF0W0AA



6.2 Indoor unit Dip Switch Setting

4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA

PCB 0151800244AE (manufactured before 6th May 2021) dip switch setting BM1

BM1-1	BM1-2	BM1-3	BM1-4	BM1-5	BM1-6	BM1-7	BM1-8	Description
OFF	OFF	OFF	---	---	---	---	---	4MXC2309BF0W0AA
ON	OFF	OFF	---	---	---	---	---	4MXC2312BF0W0AA
OFF	ON	OFF	---	---	---	---	---	4MXC2318BF0W0AA
---	---	---	OFF	---	---	---	---	Room Card Unavailable(Default)
---	---	---	ON	---	---	---	---	Room Card Available
---	---	---	---	OFF	---	---	---	Heat Pump(Default)
---	---	---	---	ON	---	---	---	Cooling Only
---	---	---	---	---	OFF	---	---	Fresh Air (Default)
---	---	---	---	---	ON	---	---	External Alarm Output
---	---	---	---	---	---	OFF	---	Without Filter Clean Remind (Default)
---	---	---	---	---	---	ON	---	With Filter Clean Remind
---	---	---	---	---	---	---	OFF	Reserved

PCB 0151800244AE dip switch setting BM3

BM3-1	BM3-2	BM3-3	BM3-4	Description
OFF	OFF	OFF	OFF	Reserved
BM3-5	BM3-6	BM3-7	BM3-8	Address of Wire Controlled Indoor Unit
OFF	OFF	OFF	OFF	Master Unit(Default)
OFF	OFF	OFF	ON	1# Slave Unit
OFF	OFF	ON	OFF	2# Slave Unit
OFF	OFF	ON	ON	3# Slave Unit
OFF	ON	OFF	OFF	4# Slave Unit
OFF	ON	OFF	ON	5# Slave Unit
OFF	ON	ON	OFF	6# Slave Unit
OFF	ON	ON	ON	7# Slave Unit
ON	OFF	OFF	OFF	8# Slave Unit
ON	OFF	OFF	ON	9# Slave Unit
ON	OFF	ON	OFF	10# Slave Unit
ON	OFF	ON	ON	11# Slave Unit
ON	ON	OFF	OFF	12# Slave Unit
ON	ON	OFF	ON	13# Slave Unit
ON	ON	ON	OFF	14# Slave Unit
ON	ON	ON	ON	15# Slave Unit

4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA
 PCB 0151800208CM (manufactured after 6th May 2021) dip switch setting BM1

BM1-1	BM1-2	BM1-3	BM1-4	BM1-5	BM1-6	BM1-7	BM1-8	Description
OFF	OFF	OFF	---	---	---	---	---	1Hp Indoor Unit
ON	OFF	OFF	---	---	---	---	---	1.2Hp Indoor Unit
OFF	ON	OFF	---	---	---	---	---	2Hp Indoor Unit
---	---	---	OFF	---	---	---	---	Room Card Unavailable(Default)
---	---	---	ON	---	---	---	---	Room Card Available
---	---	---	---	OFF	---	---	---	Heat Pump(Default)
---	---	---	---	ON	---	---	---	Cooling Only
---	---	---	---	---	OFF	---	---	Fresh Air (Default)
---	---	---	---	---	ON	---	---	External Alarm Output
---	---	---	---	---	---	OFF	---	Without Filter Clean Remind (Default)
---	---	---	---	---	---	ON	---	With Filter Clean Remind
---	---	---	---	---	---	---	OFF	Reserved

PCB 0151800208CM dip switch setting BM3

BM3-1	BM3-2	BM3-3	BM3-4	Description
OFF	ON	OFF	OFF	Cassette
BM3-5	BM3-6	BM3-7	BM3-8	Address of Wire Controlled Indoor Unit
OFF	OFF	OFF	OFF	Master Unit(Default)
OFF	OFF	OFF	ON	1# Slave Unit
OFF	OFF	ON	OFF	2# Slave Unit
OFF	OFF	ON	ON	3# Slave Unit
OFF	ON	OFF	OFF	4# Slave Unit
OFF	ON	OFF	ON	5# Slave Unit
OFF	ON	ON	OFF	6# Slave Unit
OFF	ON	ON	ON	7# Slave Unit
ON	OFF	OFF	OFF	8# Slave Unit
ON	OFF	OFF	ON	9# Slave Unit
ON	OFF	ON	OFF	10# Slave Unit
ON	OFF	ON	ON	11# Slave Unit
ON	ON	OFF	OFF	12# Slave Unit
ON	ON	OFF	ON	13# Slave Unit
ON	ON	ON	OFF	14# Slave Unit
ON	ON	ON	ON	15# Slave Unit

4MXC2324BF0W0AA

PCB 0151800208CE (manufactured before 6th May 2021) dip switch setting SW1

SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	Description
ON	ON	OFF	--	--	--	--	--	4MXC2324BF0W0AA
--	--	--	OFF	--	--	--	--	Room Card Valid (Default)
--	--	--	ON	--	--	--	--	Room Card Invalid
--	--	--	--	OFF	--	--	--	Cool and Heat (Default)
--	--	--	--	ON	--	--	--	Cool Only
--	--	--	--	--	OFF	OFF	ON	Cassate

PCB 0151800208CE dip switch setting:

Indoor unit address setting in wired controller group control BM3 (SW3)

BM3-8	BM3-7	BM3-6	BM3-5	Description
OFF	OFF	OFF	OFF	Master indoor unit
OFF	OFF	OFF	ON	1# Slave Indoor Unit
OFF	OFF	ON	OFF	2# Slave Indoor Unit
OFF	OFF	ON	ON	3# Slave Indoor Unit
OFF	ON	OFF	OFF	4# Slave Indoor Unit
OFF	ON	OFF	ON	5# Slave Indoor Unit
OFF	ON	ON	OFF	6# Slave Indoor Unit
OFF	ON	ON	ON	7# Slave Indoor Unit
ON	OFF	OFF	OFF	8# Slave Indoor Unit
ON	OFF	OFF	ON	9# Slave Indoor Unit
ON	OFF	ON	OFF	10# Slave Indoor Unit
ON	OFF	ON	ON	11# Slave Indoor Unit
ON	ON	OFF	OFF	12# Slave Indoor Unit
ON	ON	OFF	ON	13# Slave Indoor Unit
ON	ON	ON	OFF	14# Slave Indoor Unit
ON	ON	ON	ON	15# Slave Indoor Unit

4MXC2324BF0W0AA

PCB code 0151800208CF (manufactured after 6th May 2021)

SW1 (1-ON, 0-OFF)								
Capacity (SW1-1→SW1-3)			Room card SW1-4	Running mode SW1-5	Fresh air /Trouble alarm SW1-6	Filter reminding SW1-7	Location SW1-8	Description
SW1-1	SW1-2	SW1-3						
1	0	1	---	---	---	---	---	Capacity: 10.5kW
0	1	1	---	---	---	---	---	Capacity: 12.5kW
1	1	1	---	---	---	---	---	Capacity: 14.0kW
1	1	1	---	---	---	1	---	Capacity: 16.0kW
---	---	---	0	---	---	---	---	Room card invalid (default)
---	---	---	1	---	---	---	---	Room card valid
---	---	---	---	0	---	---	---	Heat pump (default)
---	---	---	---	1	---	---	---	Cooling only
---	---	---	---	---	0	---	---	Fresh air function
---	---	---	---	---	1	---	---	Trouble alarm
---	---	---	---	---	---	0	---	Without filter reminding
---	---	---	---	---	---	1	---	With filter reminding
---	---	---	---	---	---	---	0	Used in American
---	---	---	---	---	---	---	1	Not used in American(default)

SW3-2	SW3-3	Unit Type
ON	ON	Cassette

Wired controller communication address

SW3-5	SW3-6	SW3-7	SW3-8	Indoor unit Address (Indoor unit address for one wired controller control more than one unit)
OFF	OFF	OFF	OFF	0 (master)
OFF	OFF	OFF	ON	1(slave)
OFF	OFF	ON	OFF	2(slave)
OFF	OFF	ON	ON	3(slave)
OFF	ON	OFF	OFF	4(slave)
OFF	ON	OFF	ON	5(slave)
OFF	ON	ON	OFF	6(slave)
OFF	ON	ON	ON	7(slave)
ON	OFF	OFF	OFF	8(slave)
ON	OFF	OFF	ON	9(slave)
ON	OFF	ON	OFF	10(slave)
ON	OFF	ON	ON	11(slave)
ON	ON	OFF	OFF	12(slave)
ON	ON	OFF	ON	13(slave)
ON	ON	ON	OFF	14(slave)
ON	ON	ON	ON	15(slave)

4MXD2309BF0R0AA 4MXD2312BF0R0AA 4MXD2318BF0R0AA 4MXD2324BF0R0AA
 PCB 0151800267 (manufactured before Nov. 2020) dip switch setting BM1

BM1-1	BM1-2	BM1-3	BM1-4	BM1-5	BM1-6	BM1-7	BM1-8	Description
OFF	OFF	OFF	---	---	---	---	---	25K Indoor Unit
ON	OFF	OFF	---	---	---	---	---	35K Indoor Unit
OFF	ON	OFF	---	---	---	---	---	50K Indoor Unit
ON	ON	OFF	---	---	---	---	---	71K Indoor Unit
OFF	OFF	ON	---	---	---	---	---	90K Hp Indoor Unit
ON	OFF	ON	---	---	---	---	---	4Hp Indoor Unit
OFF	ON	ON	---	---	---	---	---	5Hp Indoor Unit
ON	ON	ON	---	---	---	---	---	6Hp Indoor Unit
---	---	---	OFF	---	---	---	---	Room Card Unavailable(Default)
---	---	---	ON	---	---	---	---	Room Card Available
---	---	---	---	OFF	---	---	---	Heat Pump(Default)
---	---	---	---	ON	---	---	---	Cooling Only
---	---	---	---	---	OFF	---	---	Fresh Air (Default)
---	---	---	---	---	ON	---	---	External Alarm Output
---	---	---	---	---	---	OFF	---	Without Filter Clean Remind (Default)
---	---	---	---	---	---	ON	---	With Filter Clean Remind
---	---	---	---	---	---	---	OFF	Esp Duct (USA)
---	---	---	---	---	---	---	ON	Eu. &Australia

BM3-1	BM3-2	BM3-3	Description	
OFF	OFF	OFF	Reserved	
BM3-4			Description	
OFF			Slim duct	
ON			Medium ESP duct	
BM3-5	BM3-6	BM3-7	BM3-8	Address of Wire Controlled Indoor Unit
OFF	OFF	OFF	OFF	Master Unit(Default)
OFF	OFF	OFF	ON	1# Slave Unit
OFF	OFF	ON	OFF	2# Slave Unit
OFF	OFF	ON	ON	3# Slave Unit
OFF	ON	OFF	OFF	4# Slave Unit
OFF	ON	OFF	ON	5# Slave Unit
OFF	ON	ON	OFF	6# Slave Unit
OFF	ON	ON	ON	7# Slave Unit
ON	OFF	OFF	OFF	8# Slave Unit
ON	OFF	OFF	ON	9# Slave Unit
ON	OFF	ON	OFF	10# Slave Unit
ON	OFF	ON	ON	11# Slave Unit
ON	ON	OFF	OFF	12# Slave Unit
ON	ON	OFF	ON	13# Slave Unit
ON	ON	ON	OFF	14# Slave Unit
ON	ON	ON	ON	15# Slave Unit



4MXD2309BF0R0AA 4MXD2312BF0R0AA 4MXD2318BF0R0AA 4MXD2324BF0R0AA
 PCB 0151800644 (manufactured after Nov. 2020)dip switch setting SW01(BM1)

SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	Description
---	---	---	OFF	---	---	---	---	Room Card Unavailable(Default)
---	---	---	ON	---	---	---	---	Room Card Available
---	---	---	---	OFF	---	---	---	Heat Pump(Default)
---	---	---	---	ON	---	---	---	Cooling Only
---	---	---	---	---	OFF	---	---	Fresh Air (Default)
---	---	---	---	---	ON	---	---	External Alarm Output
---	---	---	---	---	---	OFF	---	Without Filter Clean Remind (Default)
---	---	---	---	---	---	ON	---	With Filter Clean Remind
---	---	---	---	---	---	---	ON	Non-American Model

PCB 0151800644 dip switch setting SW03(BM3)

SW2-1	SW2-2	SW2-3	SW2-4	Description
OFF	---	---	---	1 swing motor(Default)
ON	---	---	---	2 swing motor
---	OFF	---	---	Reserved
---	---	OFF	---	Reserved
---	---	---	OFF	4 grade static pressure
---	---	---	ON	10 grade static pressure(Default)

SW3-5	SW3-6	SW3-7	SW3-8	Address of Wire Controlled Indoor Unit
OFF	OFF	OFF	OFF	Master Unit(Default)
OFF	OFF	OFF	ON	1# Slave Unit
OFF	OFF	ON	OFF	2# Slave Unit
OFF	OFF	ON	ON	3# Slave Unit
OFF	ON	OFF	OFF	4# Slave Unit
OFF	ON	OFF	ON	5# Slave Unit
OFF	ON	ON	OFF	6# Slave Unit
OFF	ON	ON	ON	7# Slave Unit
ON	OFF	OFF	OFF	8# Slave Unit
ON	OFF	OFF	ON	9# Slave Unit
ON	OFF	ON	OFF	10# Slave Unit
ON	OFF	ON	ON	11# Slave Unit
ON	ON	OFF	OFF	12# Slave Unit
ON	ON	OFF	ON	13# Slave Unit
ON	ON	ON	OFF	14# Slave Unit
ON	ON	ON	ON	15# Slave Unit

4MXE2309BF0W0AA 4MXE2312BF0W0AA

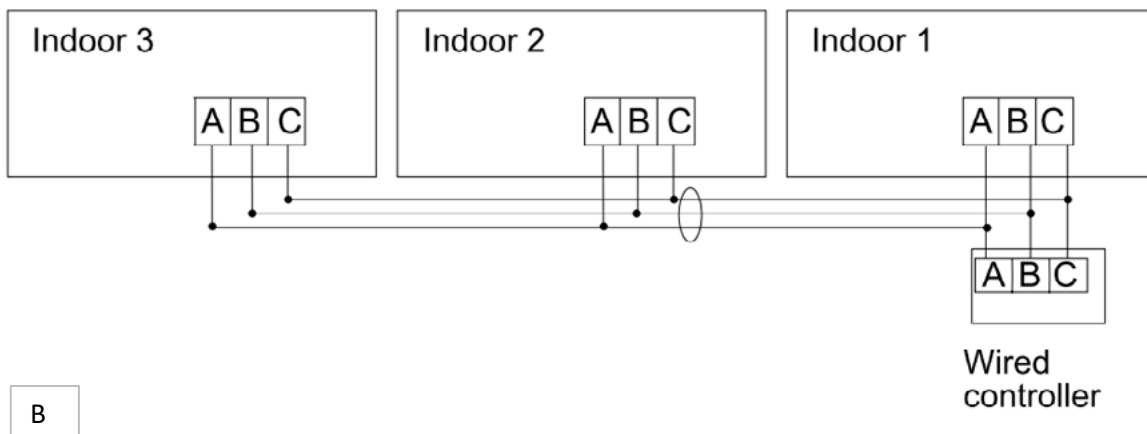
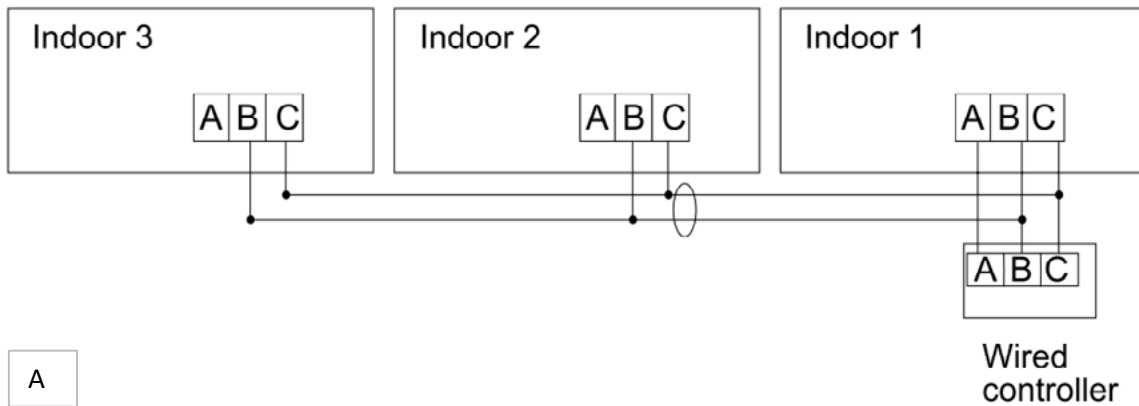
SW1								Definition
SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8	
OFF	OFF	OFF	—	—	—	—	—	4MXE2309BF0W0AA
ON	OFF	OFF	—	—	—	—	—	4MXE2312BF0W0AA
—	—	—	OFF	—	—	—	—	Room card function invalid (Default)
—	—	—	ON	—	—	—	—	Room card function valid
—	—	—	—	OFF	—	—	—	Heat pump (Default)
—	—	—	—	ON	—	—	—	Cooling only
—	—	—	—	—	OFF	—	—	Fresh air (Default)
—	—	—	—	—	ON	—	—	Malfunction alarm
—	—	—	—	—	—	OFF	—	Without filter clean reminding (Default)
—	—	—	—	—	—	ON	—	With filter clean reminding
—	—	—	—	—	—	—	OFF	North America area
—	—	—	—	—	—	—	ON	Non-North America area (Default)

SW2					Definition
SW2-5	SW2-6	SW2-7	SW2-8		
OFF	OFF	OFF	OFF		Wired controller group add

6.3 Wired Controller Group Control

Model	PCB	Group control method
4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA	0151800208CM	B
4MXC2324BF0W0AA	0151800208CF	B
4MXD2309BF0R0AA 4MXD2312BF0R0AA 4MXD2318BF0R0AA 4MXD2324BF0R0AA	0151800644	B
4MXE2309BF0W0AA 4MXE2312BF0W0AA	0151800611	B

Group control method



6.4 Indoor unit Function

Sign Definition

Indoor					Outdoor				
Tai	Tc1	Tc2	Tm	Tao	Toci	Tc	Te	Ts	Td
Ambient Temp	Outlet Pipe Temp.	Inlet Pipe Temp	Mid Coil Temp	Ambient Temp	Thick Pipe of Heat Exchanger	Mid Condenser Temp.	Defrost Temp	Compressor Suction Temp.	Compressor Discharging Temp.
Tcomp1,2			Tset						
Temp. Compensation			Set Temp.						

Dry Operation

$T_{ai} < 16^{\circ}\text{C}$, indoor unit stops running and sends stop-unit signal to outdoor.

$T_{ai} \leq T_{set}$, indoor motor runs at low speed and sends stop-unit signal to outdoor

Fan Operation

Indoor fan motor will run as the fan speed set on the remote controller or the wired controller and indoor unit will send the stop-unit signal to outdoor.

Auto Operation

A: If the unit enters Auto mode for the first time, the system will adjust the operation mode according to the room temp. and the set temp.

When $T_{ai} \geq T_{set}$, entering auto cooling mode;

When $T_{ai} < T_{set}$, entering auto heating mode.

B: Auto cooling mode is as the same as the cooling mode. After the thermostat is OFF for 15 minutes, if $T_{ai} + 1 + T_{comp2} < T_{set}$, the unit will enter auto heating mode, or the unit will still stay at auto cooling mode and stop when it reaches the set temperature; while the indoor motor will be at low speed.

C: Auto heating mode is as the same as the heating mode. After the thermostat is OFF for 15 minutes, if $T_{ai} \geq T_{set} + 1 + T_{comp1}$, the unit will enter auto cooling mode, or the unit will still stay at auto heating mode;

D: In this mode, the Sleep function is available, run as cooling sleep in cooling mode and as heating sleep in heating mode. Once sleep mode is set, the mode will not change after the unit stops for 15 minutes when it arrives T_{set} .

E: Mode conversion will be confirmed after compressor has stopped for 10 minutes.

Abnormal Operation

A: When outdoor modes from the request of indoor unit conflict, the one entering firstly will take priority.

B: After indoor receives the ON command from wired controller, it will firstly confirm the outdoor current operation mode. If they are the same modes, indoor unit will run as the request of remote controller. If they are different modes, the system will forbid to operate, and indoor will keep the OFF mode and send the "standby" signal to wired controller until outdoor stops or outdoor mode the requested mode of wired controller are the same, the unit will run as the requested mode of wired controller.

C: After indoor receives the ON command from remote controller, it will firstly confirm the outdoor current operation mode. If they are the same mode, indoor unit will run as the request of remote controller. If they are different modes, the system will forbid to operate, and indoor will keep the OFF mode. After setting on remote controller, if the buzzer sounds two times, that shows abnormal operation. Indoor will run until the outdoor mode and the requested mode of remote controller are the same.

D: In AUTO mode, when the indoor unit occurs abnormal operation, the indoor unit will keep OFF state, and the buzzer will not sound until the outdoor mode and the requested mode of indoor unit are the same.

F: COOL (included AUTO COOL), DRY, FAN are not abnormal mode.

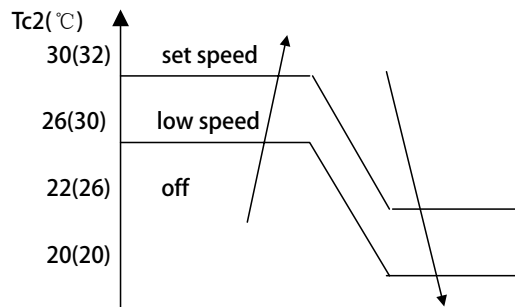
G: HEAT and FAN are not abnormal mode.

Control for Discontinuous Operation

After the unit starts up in cooling/heating mode, in 5 minutes, the compressor run/stop will not be controlled by the room temp., but after changing the set temp., if compressor stop condition can be met, the system will stop compressor immediately.

Anti-Cold Air Control

In heating mode, after compressor startup, the system will control indoor fan motor according to indoor coil temperature. Detailed operation is as below:



Note:

- 1) The data in the parentheses is the control point when $T_{ao} > 10^{\circ}\text{C}$;
- 2) Indoor unit will send "pre-heat" signal to wired controller in anti-cold air period.

Fan Motor Control in Defrosting

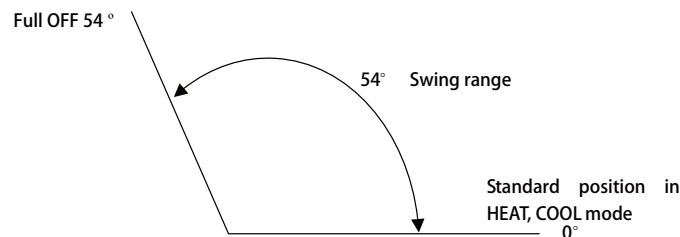
- A. On receiving outdoor defrosting signal, indoor unit will stop after blowing remaining heat at slow speed for 20 seconds.
- B. In defrosting period, indoor fan motor stops running.
- C. Defrosting is over, and indoor motor will run as anti-cold air state.

Blowing Remaining Heat Operation

When the unit shuts off in heating mode or the thermostat is OFF, indoor motor will stop running after running at low speed for 30 seconds.

Swing Motor Control

Indoor unit will control the swing motor according to the swing signal from the wired controller.



Water Pump Control

- A: Water pump will be electrified when indoor unit enters non-heating mode until indoor unit stops. 5 minutes later after indoor unit stops, water pump will stop.
- B: When indoor unit is in heating mode, water pump will not operate.
- C: In OFF state and in any mode, once float switch signal is measured, indoor unit will send OFF signal to outdoor and send the failure code of drainage system to the wired controller, then the water pump will work until the float switch signal is cancelled. After water pump is forced to run for 5 minutes, indoor unit will be back to normal state.

Compulsory Defrosting Operation

A: After indoor receives the compulsory defrosting signal, it will send continuously the signal to outdoor for 10 times, in this period, indoor unit will work normally and it will enter defrosting operation until it receives the enter-defrost signal from outdoor unit.

B: Wired control type: In heating mode, make a jumper for D2 to enter compulsory defrosting.

C: Remote control type: In heating mode, high speed, 30°C, press SLEEP button 6 times, and the buzzer will sound 3 times, then enter the manual defrosting.

Trial Operation

A: Enter condition

a: Wired control type: In OFF state of COOL or HEAT mode, press ON/OFF button for over 5 seconds to enter the cooling or heating trial operation;

b: Remote control type: In OFF state, keep pressing ON/OFF button until 5 seconds later, the buzzer sounds twice, then enter the cooling or heating trial operation;

B: Response in trial operation

a: Cooling trial operation: indoor sends S-CODE=SD to outdoor, indoor: at high speed, set temp: 16°C;

b: Heating trial operation: indoor sends S-CODE=SF to outdoor, indoor: at high speed, set temp: 30°C;

c: In this period, anti-freezed and overheat functions are invalid.

C: Quit condition

a: Receiving the signal of cancelling trial operation from wired controller or remote controller;

b: After trial operation has run for 20 minutes, it will quit trial operation automatically and enter the normal mode with the set temp.: 24°C.

Timer Operation

A: Wired control type: wired controller will control the unit ON/OFF;

B: Remote control type: indoor unit will confirm the unit ON or OFF according to the current clock and the timer clock set by remote controller. When setting timer function, the timer LED will be ON.

SLEEP Function

A: Wired control type unit is without sleep function;

B: Remote control type unit consists of cooling sleep and heating sleep, after the sleep is set, the unit will change mode; the sleep will begin to count.

a: In cooling/dry mode, after running for 1 hour, the set temp. will increase 1°C, another 1 hour later, the set temp. will increase 1°C again, then 6 hours (or set time-2) later, it will stop.

b: In heating mode, after running for 1 hour, the set temp. will reduce 2°C, another 1 hour later, the set temp. will reduce 2°C again, then 3 hours later, the set temp. will increase 1°C, and another 3 hours(or set time-5), it will stop.

c: When setting sleep function, indoor motor is forced at low speed.

Healthy Negative Ion Function

When receiving the healthy signal from the wired controller or remote controller, if fan motor is running, the negative ion will work;

If the fan motor stops, the negative ion generator will stop.

Auto-Restart Function

A: Wired control type:

YR-E17:Please refer to the DIP switch setting SW4: ON means auto-restart unavailable; OFF means auto-restart available(SW4=OFF is factory default setting)

B: Remote control type:

YR-HBS01:

In 5 seconds, press SLEEP button 10 times continuously, the buzzer will beep 4 times and enter auto-restart function. In 5 seconds, press SLEEP 10 times continuously, the buzzer will beep twice and quit auto-restart function

C: Memory information: ON/OFF state, mode, fan speed, set temp., health, swing position;

D: If the memory includes timer or sleep function, when being electrified again, timer and sleep will be cancelled;

E: If the memory includes auto mode, when the jumper shows cooling only type, auto mode will change to cooling mode.

Room Card Function

Room Card Function

1) Room card function (SW1-4) switched off

If room card function switched off, indoor unit could be switched on/off by remote controller, wired controller, central controller and dry contact (When dry contact close the unit switched ON, when dry contact disconnect the unit switched OFF).

When the dry contact close, the unit will operate as per the state set by controller during the previous operation (EE memory separated), that will remember operating modes, fan speed, temperature setting, healthy mode, swing position etc. Timer and sleep mode will be canceled when the unit startup again.

When dry contact disconnect, indoor unit can be controlled by controller when turned off.

2) Room card function (SW1-4) switched on

If room card function valid, the indoor unit will only runs when the room card connect first then switched ON by remote controller, wired controller or central controller. (The indoor unit stops when the room card disconnects, or switched OFF by remote controller, wired controller or central controller.)

When dry contact close, the indoor unit will be at stand-by state, indoor unit will be ON and run as per the controller setting state when it's switched on by wireless controller or auto start.

When dry contact disconnect, the indoor unit will switched on immediately and cannot be controlled by controller.

Model	PCB	Room Card Connection Port	Dip Switch
4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA	0151800208CM	CN1	BM1-4
4MXD2309BF0R0AA 4MXD2312BF0R0AA 4MXD2318BF0R0AA 4MXD2324BF0R0AA 4MXD2318BF0R0AA	0151800644	CN16	BM1-4
4MXC2324BF0W0AA	0151800208CF	CN1	SW1-4

Setting Method of Temperature Compensation Tcomp

A. Wired control type unit: this function is not available

B. Remote control type unit:

In cooling or heating mode, there is always with the temp. compensation.

In heating mode: In 24°C heating mode, press SLEEP(or SWING) button 7 times continuously within 5 seconds, indoor buzzer sounds twice, that shows temp. compensation works. Switch on the unit in heating mode by the remote controller, press TEMP button to set the set temp., so temperature compensation=the current set temp. - 24°C. For example, if the set temp. is 24°C, the temp. compensation is 0°C; if the set temp. is 25°C, the temp. compensation is 1°C. The max. compensation temp. is 6°C (the set temp. is 30°C). If you want to cancel it, set the temp. as 24°C.

In cooling mode: In 24°C cooling mode, press SLEEP(or SWING) button 7 times continuously within 5 seconds, indoor buzzer sounds twice, that shows temp. compensation works. Switch on the unit in heating mode by the remote controller, press TEMP button to set the set temp., so temperature compensation=24°C-the current set temp. For example, if the set temp is 24°C, the temp. compensation is 0°C; if the set temp. is 23°C, the temp. compensation is -1°C. The max. compensation temp is -8°C (the set temp is 16°C). If you want to cancel it, set the temp as 24°C. So the temp. compensation range is +8°C~-6°C.

Anti-Freezed Protection

When compressor has run for over 5 minutes, to prevent indoor evaporator freezing (in cooling/dry mode), if indoor mid-coil temp is below -1 degree for over 5 minutes, indoor EEV will close, and compressor will stop. When indoor mid-coil temp is over about 10 degree, the unit will be normal.

Overload Protection in Heating Mode

It is valid only in heating mode, if indoor mid-coil temp. is over about 65 degree continuously for 10 seconds, indoor will stop; while when indoor mid-coil temp. is below 52 degree for 3 seconds, indoor will resume.

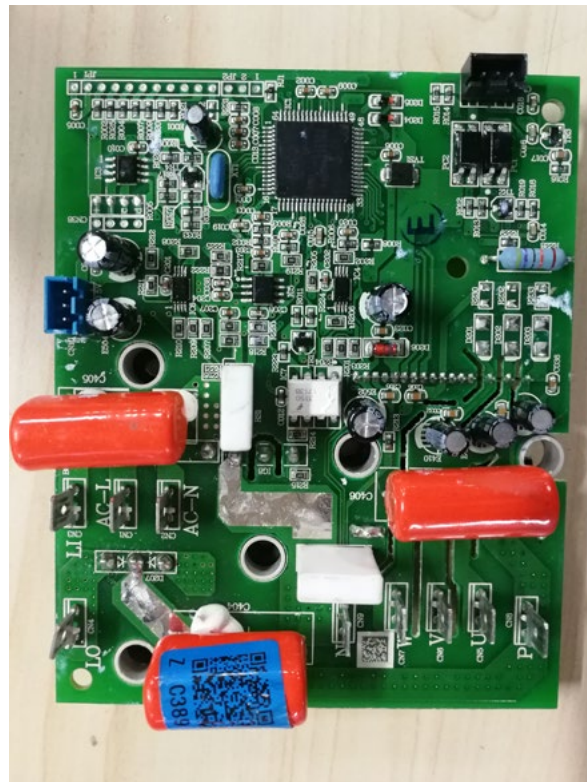
6.5 Outdoor unit PCB Photo, Dip Switch Setting and Function
Outdoor unit PCB Photo and Dip Swith Setting

Model	PCB	Power Module
4TXM2318BF300AA	0151800364D	0011800377C
4TXM2324BF300AA	0151800364D	0011800377AJ
4TXM2330BF400AA	0151800364C	0011800377AAA
4TXM2336BF500AA	0151800364C	0011800377AAA
4TXM2342BF500AA	0151800364C	0011800377AAA

PCB (0151800364D)



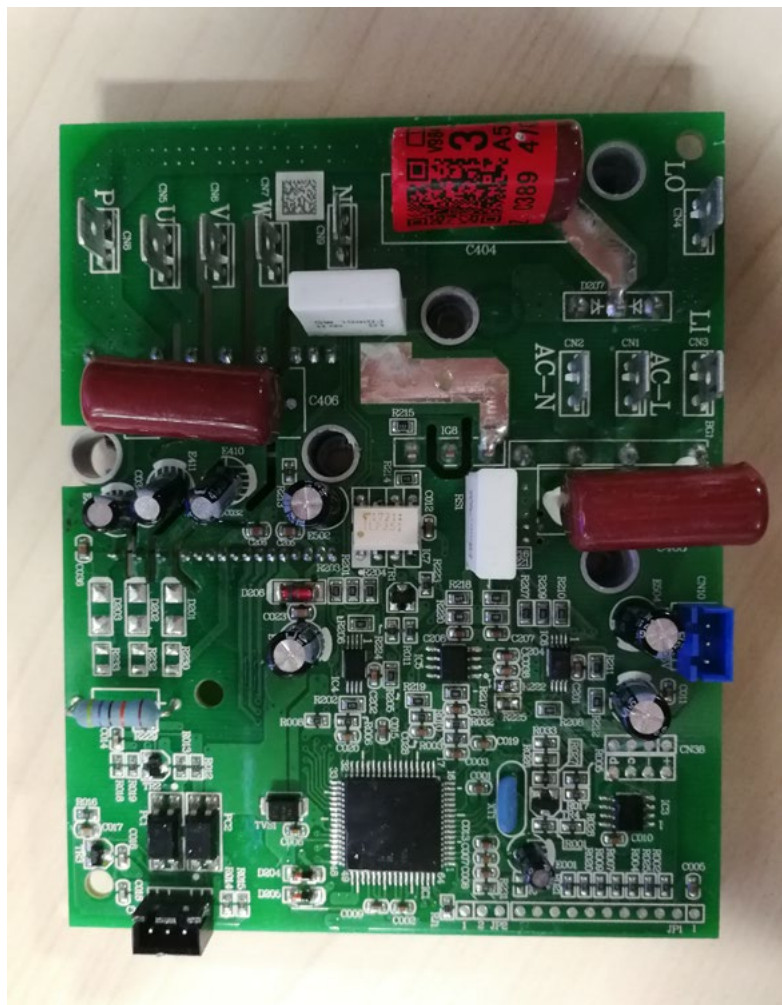
Power Module (0011800377C)



PCB (0151800364C)



Power Module (0011800377AJ)



6.6 Dip Switch Setting

Outdoor main PCB 015180036C/0151800364D dip switch setting SW5

SW5-1	SW5-2	SW5-3	SW5-4	SW5-5	SW5-6	SW5-7	SW5-8	Description
OFF	OFF	---	---	---	---	---	---	Heat Pump (Default)
ON	OFF	---	---	---	---	---	---	Cooling Only
ON	ON	---	---	---	---	---	---	Heating Only
---	---	OFF	---	---	---	---	---	Adjust by Machine Types
---	---	ON	---	---	---	---	---	Max Running Current:15A (Default)
---	---	---	OFF	OFF	OFF	---	---	4TXM2318BF300AA
---	---	---	OFF	OFF	ON	---	---	4TXM2324BF300AA
---	---	---	ON	OFF	OFF	---	---	4TXM2330BF400AA
---	---	---	ON	OFF	ON	---	---	4TXM2336BF500AA
---	---	---	ON	ON	OFF	---	---	4TXM2342BF500AA
---	---	---	---	---	---	OFF	---	Temperature Correction Invalid (Default)
---	---	---	---	---	---	ON	---	Temperature Correction Valid
---	---	---	---	---	---	---	OFF	Mute Unavailable (Default)
---	---	---	---	---	---	---	ON	Mute Available

Small service PCB:0151800076A dip switch setting SW1

SW1-1	SW1-2	SW1-3	SW1-4	Description
OFF	OFF	OFF	OFF	State When Out of Factory
ON	OFF	OFF	OFF	Compulsory Heating: 50Hz, Outdoor Motor 5-Class, Standard Open Angle 200, The Others are Normal
OFF	ON	OFF	OFF	Compulsory Cooling: 60Hz, Outdoor Motor 7-Class, Standard Open Angle 200, the Others are Normal
OFF	OFF	ON	OFF	Rated Operation
OFF	OFF	OFF	ON	Time Defrost Valid
ON	ON	ON	ON	Detection for Wrong Wiring

SW7: Except the SW7-2 and SW7-3, all the other dip switch setting is OFF

SW7-2	SW7-3	Description
ON	ON	Defrosting Temperature:6°C
OFF	OFF	Defrosting Temperature:8°C (Default)

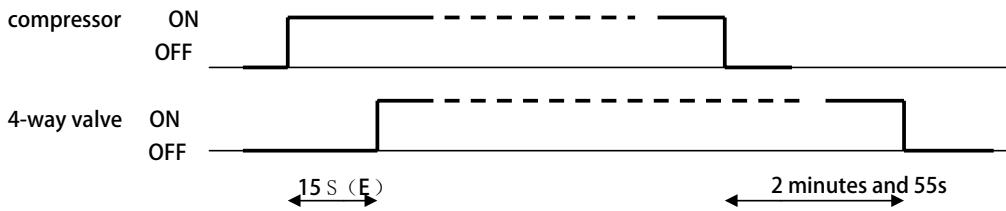
Outdoor main PCB 0151800075 dip switch setting

Outdoor central control address					Indoor unit terminal				
3U***					A	B	C		
4U***					A	B	C	D	
5U***					A	B	C	D	E
SW06	4	3	2	1	Indoor unit control address				
	OFF	OFF	OFF	OFF	1	2	3	4	5
	OFF	OFF	OFF	ON	6	7	8	9	10
	OFF	OFF	ON	OFF	11	12	13	14	15
	OFF	OFF	ON	ON	16	17	18	19	20
	OFF	ON	OFF	OFF	21	22	23	24	25
	OFF	ON	OFF	ON	26	27	28	29	30
	OFF	ON	ON	OFF	31	32	33	34	35
	OFF	ON	ON	ON	36	37	38	39	40
	ON	OFF	OFF	OFF	41	42	43	44	45
	ON	OFF	OFF	ON	46	47	48	49	50
	ON	OFF	ON	OFF	51	52	53	54	55
	ON	OFF	ON	ON	56	57	58	59	60
	ON	ON	OFF	OFF	61	62	63	64	65
	ON	ON	OFF	ON	66	67	68	69	70
ON	ON	ON	OFF	71	72	73	74	75	
ON	ON	ON	ON	76	77	78	79	80	

6.7 Outdoor unit control

6.6.1 4-way valve control in heating

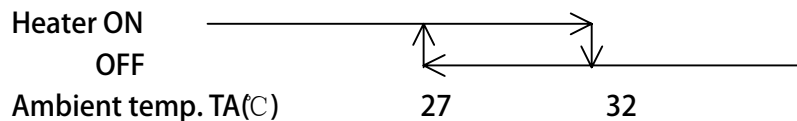
Multi: Protection when 4-way valve can not reverse in heating: 10 minutes later after compressor startup, if indoor coil average temp. is below 15degree and keeps for 1 minute, the unit will stop and occur the 4-way valve protection.



6.6.2 Electric heater control

If compressor has not run for a long time, the refrigerant will deposit on the bottom of compressor and mix with the refrigerant oil. When re-startup, because low pressure reduces, refrigerant will be segregated from the refrigerant oil and cause soam in the oil, which will make compressor exhaust a lot of oil. Therefore please stop heating the compressor bottom to ensure the low pressure in startup period should not go down greatly.

- Ambient temp. $TA \leq 27$ degree, when compressor stops, the electric heater will be electrified.
- When $TA \geq 32$ degree, or compressor running, the electric heater will be off.



3.2.5 Control of defrosting in heating

In heating mode, defrosting temp. sensor will check the frosting condition of outdoor heat exchanger and make defrosting control.

Multi:

- In heating mode, if the compressor has run for 10 minutes continuously and run for 45 minutes in all, the system will measure the defrosting temperature sensor T_e and outdoor ambient temp. sensor TA , if the below condition can be met for continuous 5 minutes, the unit will enter defrosting operation:

$$T_e \leq C \times TA - \alpha$$

Herein: C: $TA < 0^\circ\text{C}$, $C=0.8$ $TA \geq 0^\circ\text{C}$, $C=0.6$

According to SW5-2, the setting is as follow: in the place easy to frost, it is H; when out of factory, it is M.

Jumper selection	M (out of factory)	H
α ($^\circ\text{C}$)	8 (E)	6 (E)

- Defrosting entering condition: $-15^\circ\text{C} \leq C \times TA - \alpha \leq -2^\circ\text{C}$;

- Stop and Pause condition of compressor running accumulative time in heating mode:

Checking Stop: running operation changes from heating to cooling.

Checking Pause: thermostat OFF, or the unit stops.

Cancel condition:

It will take the max. 10 minutes from beginning defrosting to quit it. T_e sensor will measure the condition of outdoor heat exchanger, if the temp. is over 7°C for 60 seconds in all or is up to 12°C for 30 seconds in all, the defrosting will be over.

6.6.3 Compulsory defrosting control

Enter condition: in heating mode, after receiving the compulsory defrosting signal from indoor unit, the unit will perform the compulsory defrosting operation.

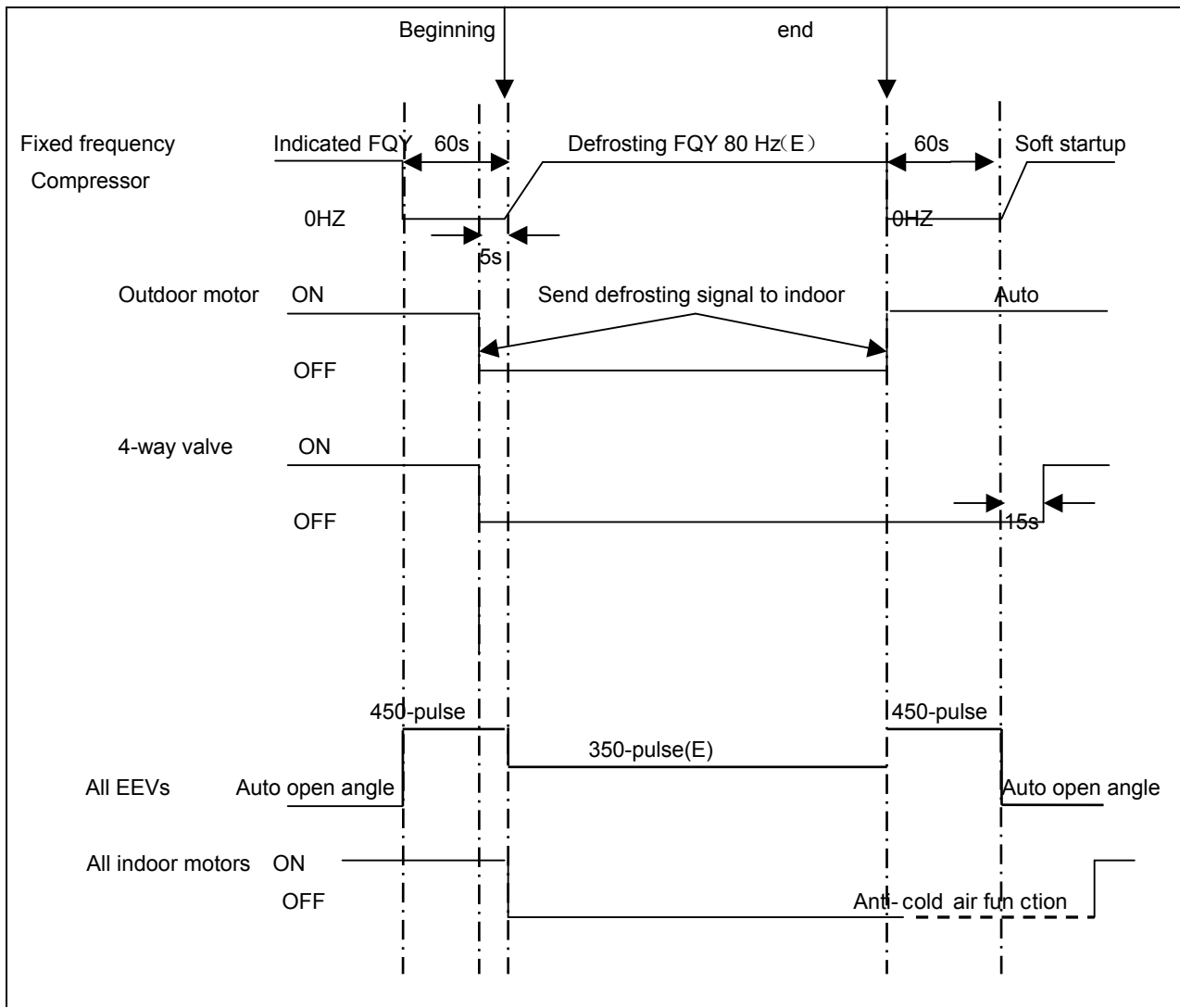
Cancel condition: $T_e \geq 12^\circ\text{C}$ and keep for 1 minute or the defrosting time is over 10 minutes. The manual

defrosting signal of indoor unit will remain until the outdoor enters defrosting mode.

Note: When outdoor compressor not running, the unit still can enter manual defrosting, but it will comply with the 3-minute protection of compressor.

6.6.4 Defrosting operation flow chart:

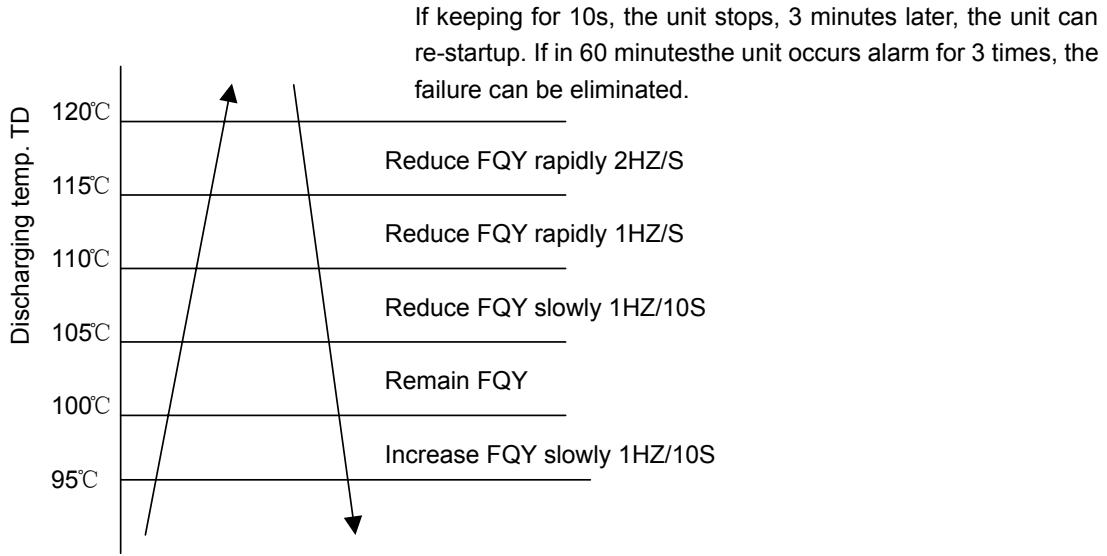
Multi:



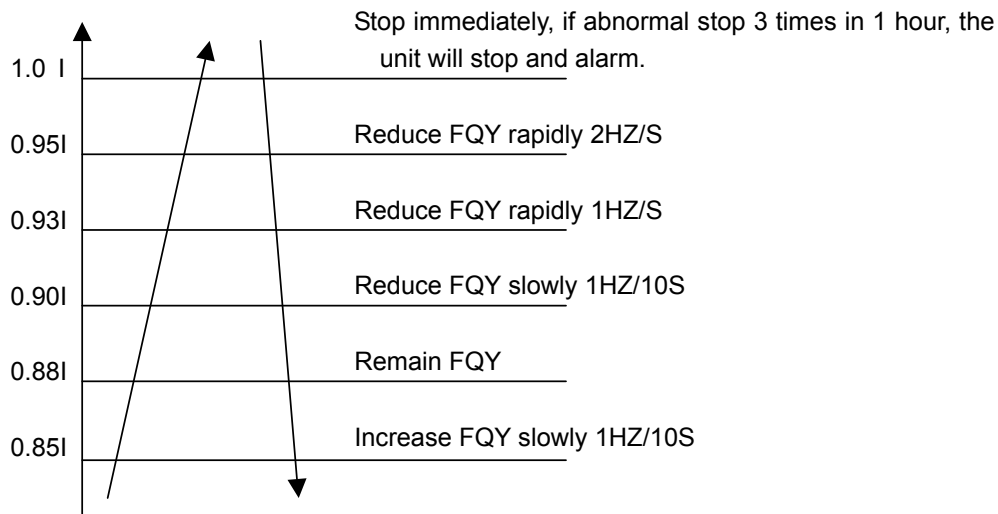
6.6.5 Frequency control when Td is too high

Purpose: make compressor frequency control if the discharging temp. is too high, to lower the discharging temp. efficiently and ensure the system can run normally.

Multi:



6.6.7 Frequency control when there is CT over current protection

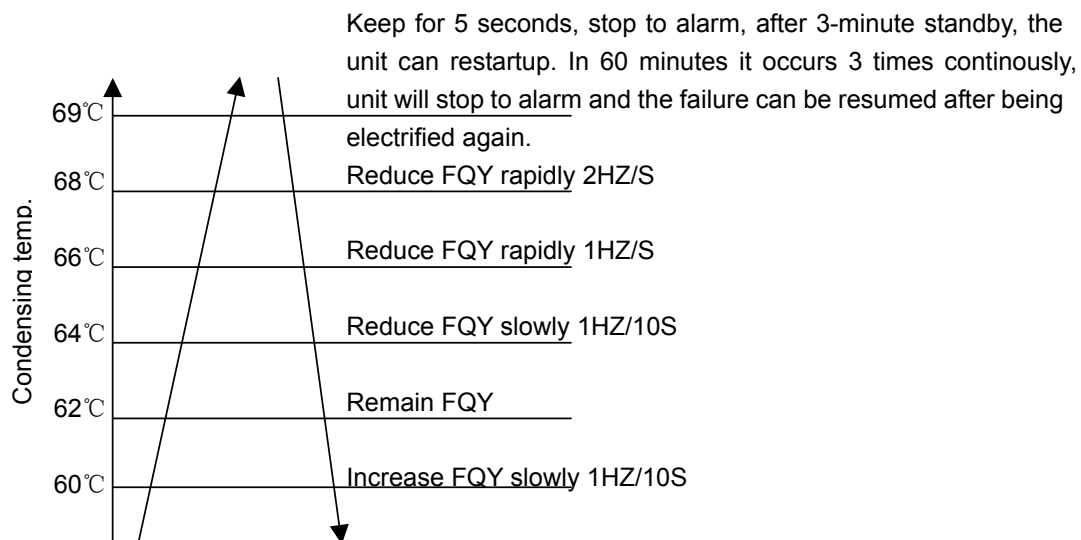


6.6.8 High pressure protection (Multi)

When the input signal of pressure switch is high level:1, that shows there is no protection.

When the input signal of pressure switch is low level: 0 for 1 minute, that shows high pressure protection works. At this time, compressor stops, outdoor will send the alarm signal. The alarm can be resumable. If in 60 minutes, the failure occurs 3 times, the failure can be confirmed and send failure code to indoor. Meanwhile, by controlling the max. condensate temp. Tc (cooling) or TmAVE (heating), please confirm as follow:

In nominal cooling/dry/heating mode, high pressure can be controlled by limiting the max. frequency.



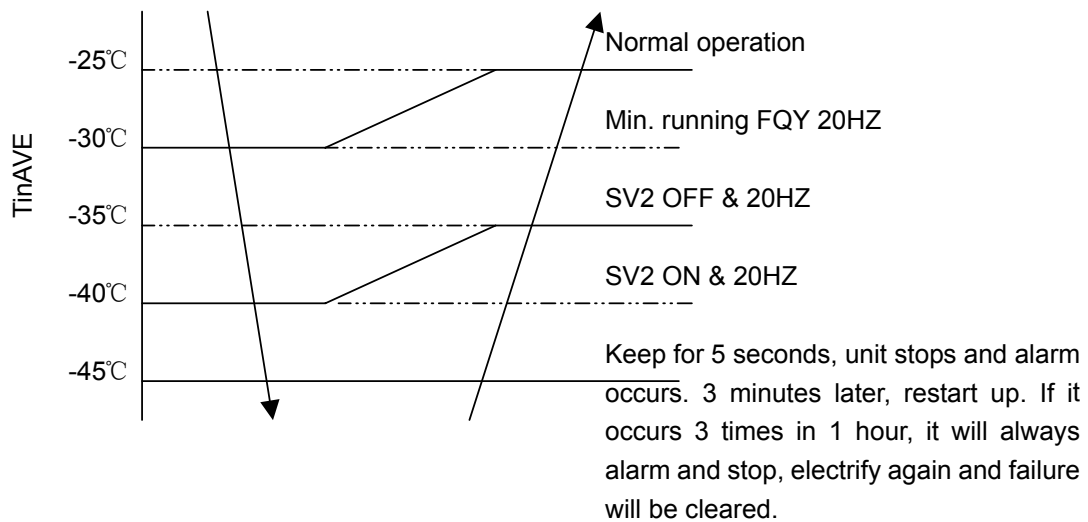
6.6.9 Low pressure protection (Multi)

- (1) When compressor is running, if output signal of low pressure switch is low level: 0 for 1 minute continuously, compressor will stop, outdoor alarms. The alarm can be resumable. If in 60 minutes, the failure occurs 3 times, the failure can be confirmed and send failure code to indoor.
- (2) When compressor no running, if output signal of low pressure switch is low level: 0 for 30 seconds continuously, alarm will occur.

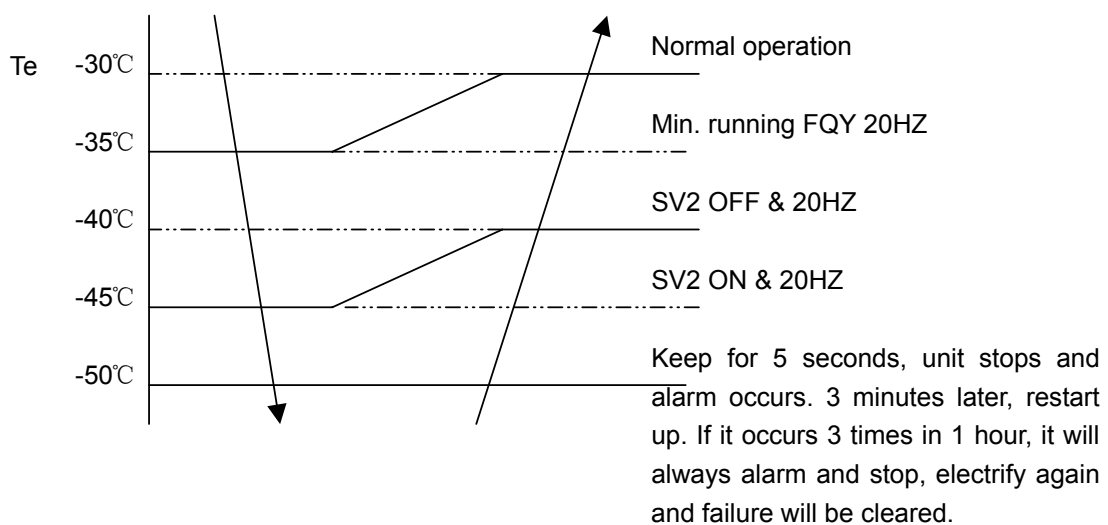
- When unit stops, the reason that system still checks the low pressure : in a long time stop, make protection for the compressor on the condition of great refrigerant leakage.
 - The reason that low pressure switch action time is 30 seconds: when compressor stops, low pressure does not change, so it will be shorter than the set time in operation.
- (3) When compressor starts up, in 8 minutes, low pressure switch signal will be shielded.
- (4) In defrosting, low pressure switch will be shielded.
- (5) In oil return procedure, low pressure switch will be shielded.
- (6) In the refrigerant discharging procedure after the oil return in cooling is over, low pressure switch will be shielded.

In addition, the system will control low pressure through the evaporator temp. TE to realize the low pressure protection function.

In cooling, confirm through Tc2AVE:



In heating, confirm through defrosting temp. Te:



If the failure is not confirmed as the permanent protection, outdoor will not send failure code to indoor, and indoor will not alarm.

6.6.10 Oil return operation control

D: Entering condition

When the compressor running frequency is lower than 58Hz (E) continuously for 8 hrs, the system will enter oil return operation. In the course of mode changeover, manual unit stop or protective unit stop, the time will be accumulative. After the compressor restarts up, the time will be counted continuously. In a continuous 8 hrs, if the compressor running frequency is not less than 72Hz for over 10 minutes continuously, the accumulative time will be cleared. Also after the heating defrosting, the time will be cleared.

E: Procedure

Cooling mode: refer to “the oil return procedure in cooling mode”

Heating mode: refer to “the oil return procedure in heating mode”

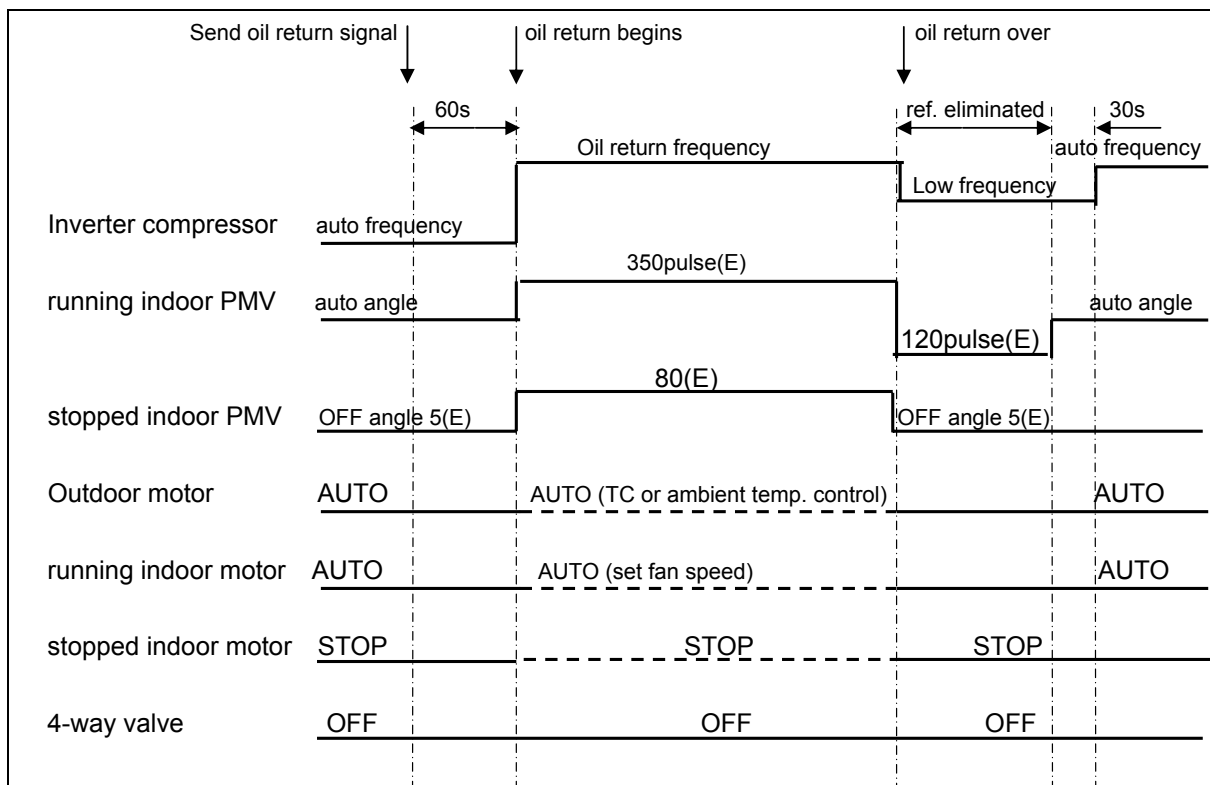
F: The protection treatment in oil return operation

In the course of oil return, because of protection or abnormal unit stop, after the unit restarts up, the time will not be cleared, the system will need another oil return operation. In the refrigerant flow course in the oil return of cooling mode or after the oil return, and within 5 minutes after the refrigerant being eliminated is over, the anti-freezed protection is invalid, and also the low voltage protection is invalid. But the other protection is valid.

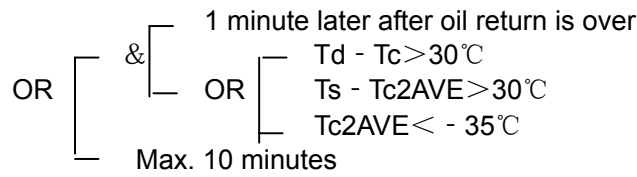
In the course of oil return from heating mode to cooling mode, if abnormal condition occurs or the unit stops for protection, then the system needs not another oil return within 3 minutes after the unit stops and it will start up directly, then to heating mode.

In the course of oil return from heating mode to cooling mode, the anti-freezed protection is null and void, and the low voltage protection is null either. The other protection is valid.

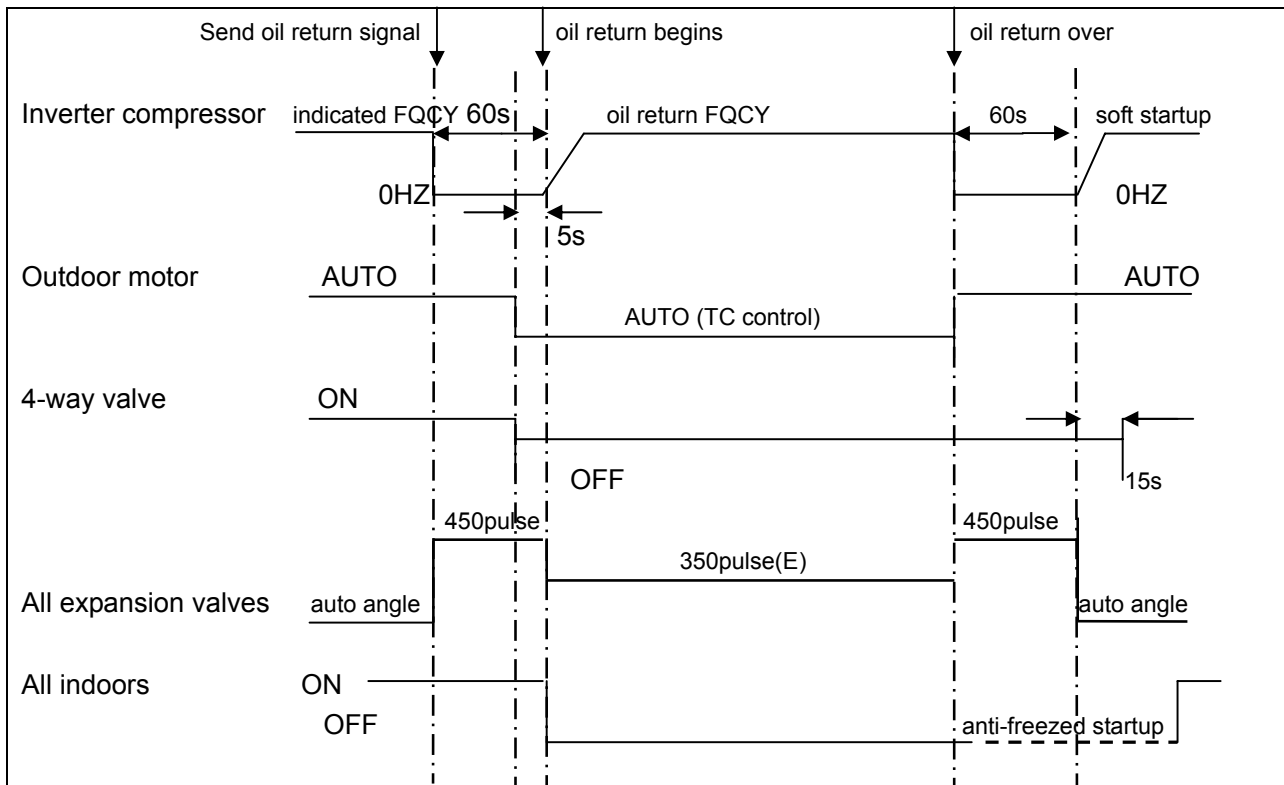
Oil return procedure in cooling mode:



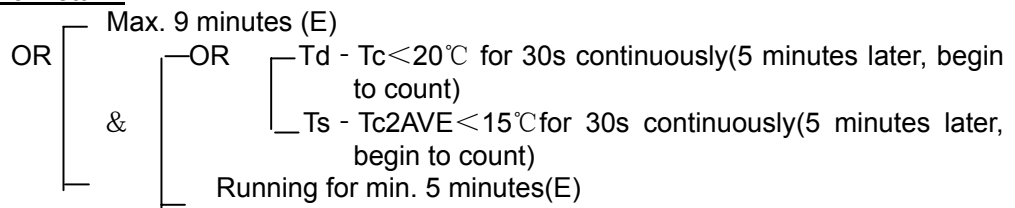
After oil return in cooling mode, the quit condition of refrigerant eliminated:



Oil return procedure in heating mode:



Quit condition of oil return:



6.8 Diagnostic Code

4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA

INDOOR UNIT TROUBLE SHOOTING

LED flash times of indoor PCB		Wired controller display	Contents of Malfunction	Possible reasons
LED5	LED1			
0	1	01	Malfunction of indoor unit ambient temperature sensor	Sensor disconnected,or broken,or at wrong position,or short circuit
0	2	02	Malfunction of indoor unit piping temperature sensor	Sensor disconnected,or broken,or at wrong position,or short circuit
0	4	04	EEPROM wrong of indoor PCB	EEPROM chip disconnected or broken or wrong programmed,or PCB broken
0	7	07	Abnormal communication between indoor and outdoor units	Wrong connection,or the wires be disconnected or wrong address setting of indoor unit or faulty power supply or faulty PCB or slave unit malfunction in MAXI system
0	8	/	Abnormal communication between wired controller and indoor unit	Wrong connection or wired controller broken,or PCB faulty
0	12	0C	Malfunction of drain system	Pump motor disconnected or at wrong position,or the float switch,disconnected, or at wrong position,or the short circuit bridge disconnected
0	13	0D	Zero cross sigal wrong	Zero cross sigal detected wrong
0	14	0E	Indoor unit DC fan motor abnormal	DC Fan motor disconnected or DC Fan broken or circuit broken

Note:

1.The outdoor failure can also be indicated by the indoor unit,the checking method as follows: LED5 flash times stands for tens digit,and LED1 flash times stands for units digit, use this bidigitate figure minus 20,then will get the outdoor error code.For example,if the outdoor error code is 15,LED5 will flash 3 times firstly,two seconds later,LED1 will flash 5 times , and four seconds later the process will repeat again.

2.LED5 is a red one on the indoor PCB,LED1 is a yellow one.

3.To get much more details about the out door unit failure,please refer to the outdoor unit trouble shooting list.

0150515407

4MXC2324BF0W0AA

INDOOR UNIT TROUBLE SHOOTING

LED flash times of indoor PCB		I.R. RECEIVER DIGITAL DISPLAY	Contents of Malfunction	Possible reasons
LED4	LED1			
0	1	01	Malfunction of indoor unit ambient temperature sensor	Sensor disconnected, or broken, or at wrong position, or short circuit
0	2	02	Malfunction of indoor unit piping temperature sensor	Sensor disconnected, or broken, or at wrong position, or short circuit
0	4	04	EEPROM wrong of indoor PCB	EEPROM chip disconnected or broken or wrong programmed, or PCB broken
0	7	07	Abnormal communication between indoor and outdoor units	Wrong connection, or the wires be disconnected or wrong address setting of indoor unit or faulty power supply or faulty PCB or slave unit malfunction in MAXI system
0	8	08	Abnormal communication between wired controller (or I.R. RECEIVER) and indoor unit	Wrong connection or wired controller broken, or PCB faulty
0	12	0C	Malfunction of drain system	Pump motor disconnected or at wrong position, or the float switch, disconnected, or at wrong position, or the short circuit bridge disconnected
0	13	0D	Zero cross signal wrong	Zero cross signal detected wrong
0	14	0E	Indoor unit DC fan motor abnormal	DC Fan motor disconnected or DC Fan broken or circuit broken

Note:

1. The outdoor failure can also be indicated by the indoor unit, the checking method as follows: If the outdoor error code is M (DECIMAL), the indoor unit's I.R. receiver display will show the after converted hexadecimal code of "M+20" (DECIMAL), for example, if the outdoor error code is 2, the indoor unit I.R. receiver display will flash the error code 16 (2 → 2+20=22 → change decimal 22 to hexadecimal code, get 16)
2. LED4 is a red one on the indoor PCB, LED1 is a yellow one.
3. To get much more details about the outdoor unit failure, please refer to the outdoor unit trouble shooting list.

0150516957

4MXD2309BF0R0AA 4MXD2312BF0R0AA 4MXD2318BF0R0AA 4MXD2324BF0R0AA

INDOOR UNIT TROUBLE SHOOTING

LED flash times of indoor PCB		Wired controller display	Contents of Malfunction	Possible reasons
LED4	LED3			
0	1	01	Malfunction of indoor unit ambient temperature sensor	Sensor disconnected, or broken, or at wrong position, or short circuit
0	2	02	Malfunction of indoor unit piping temperature sensor	Sensor disconnected, or broken, or at wrong position, or short circuit
0	4	04	EEPROM wrong of indoor PCB	EEPROM chip disconnected or broken or wrong programmed, or PCB broken
0	7	07	Abnormal communication between indoor and outdoor units	Wrong connection, or the wires be disconnected or wrong address setting of indoor unit or faulty power supply or faulty PCB or slave unit malfunction in MAXI system
0	8	/	Abnormal communication between wired controller and indoor unit	Wrong connection or wired controller broken, or PCB faulty
0	12	0C	Malfunction of drain system	Pump motor disconnected or at wrong position, or the float switch, disconnected, or at wrong position, or the short circuit bridge disconnected
0	13	0D	Zero cross signal wrong	Zero cross signal detected wrong
0	14	0E	Indoor unit DC fan motor abnormal	DC Fan motor disconnected or DC Fan broken or circuit broken

Note:

1. The outdoor failure can also be indicated by the indoor unit, the checking method as follows: If the outdoor error code is M (DECIMAL), the indoor unit's wired controller display will show the after converted hexadecimal code of "M+20" (DECIMAL), for example, if the outdoor error code is 2, the indoor unit wired controller display will flash the error code 16 (2 → 2+20=22 → change decimal 22 to hexadecimal code, get 16)
2. To get much more details about the outdoor unit failure, please refer to the outdoor unit trouble shooting list.

0150521239

INDOOR UNIT TROUBLE SHOOTING

LED flash times of indoor PCB		Malfunction display	Contents of Malfunction	Possible reasons
LED6	LED1			
0	1	E1	Malfunction of indoor unit ambient temperature sensor	Sensor disconnected, or broken, or at wrong position, or short circuit
0	2	E2	Malfunction of indoor unit piping temperature sensor	Sensor disconnected, or broken, or at wrong position, or short circuit
0	4	E4	EEPROM wrong of indoor PCB	EEPROM chip disconnected or broken or wrong programmed, or PCB broken
0	7	E7	Abnormal communication between indoor and outdoor units	Wrong connection, or the wires be disconnected or wrong address setting of indoor unit or faulty power supply or faulty PCB
0	8	E8	Abnormal communication between wired controller and indoor unit	Wrong connection or wired controller broken, or PCB faulty
0	12	E10	Malfunction of drain system	Pump motor disconnected or at wrong position, or the float switch, disconnected, or at wrong position, or the short circuit bridge disconnected
0	13	C1	Zero cross signal wrong	Zero cross signal detected wrong
0	14	E14	Indoor unit DC fan motor abnormal	DC Fan motor disconnected, or DC Fan broken or circuit broken

Note:

1. The outdoor failure can also be indicated by the indoor unit, the checking method as follows: LED6 flash times stands for ten's place, and LED1 flash times stands for one's place, use this ten-digit number minus 20, then will get the outdoor error code. For example, if the outdoor error code is 15, LED6 will flash 3 times firstly, two seconds later, LED1 will flash 5 times, and four seconds later the process will repeat again.

2. LED6 is a green one on the indoor PCB, LED1 is a yellow one.

3. To get much more details about the outdoor unit failure, please refer to the outdoor unit trouble shooting list.

0150533331



4TXM2318BF300AA 4TXM2324BF300AA 4TXM2330BF400AA 4TXM2336BF500AA 4TXM2342BF500AA

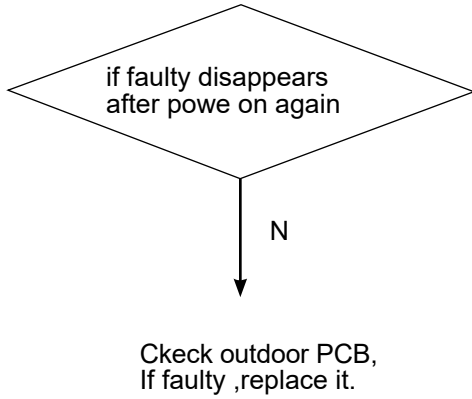
PRODUCT DIAGNOSIS PROCEDURE			Diagnosis using the Numerical Light Indicator																																
Malfunction Code	Diagnosis	Malfunction Code	Diagnosis	Precautions For Adding Refrigerant																															
1	Failure of outdoor unit EEPROM	33	Malfunction of gas pipe temp. sensor for indoor unit B	1. This system must use refrigerant R410A.																															
2	IPM overcurrent or short circuit	34	Malfunction of gas pipe temp. sensor for indoor unit C	2. Add refrigerant 28g/meter in 5U45S1E-RA, add refrigerant 20g/meter in other outdoor units when the total piping length exceeds the standard value, but make sure that the total liquid piping length should be less than the max value.																															
4	Communication failure between Module and ECU	35	Malfunction of gas pipe temp. sensor for indoor unit D																																
5	Module operated overload	36	Malfunction of gas pipe temp. sensor for indoor unit E																																
6	Module low or high voltage	38	Malfunction of module temp. sensor Momentary power failure detection																																
8	Discharging temperature overheating. Lack of refrigerant, ambient temperature too high or PMVs blocked.	39	Malfunction of condensing temp. sensor	Outdoor Unit																															
9	Malfunction of the DC fan motor	40	Malfunction of liquid pipe temp. sensor for indoor unit E	3U19FS1ERA	30m 50m																														
10	Malfunction of defrosting temp. sensor	41	Malfunction of 'Tooi' temp. sensor	3U24GS1ERA	30m 60m																														
11	Malfunction of compressor suction temp. sensor	42	System high pressure switch off	4U26HS1ERA	40m 70m																														
12	Malfunction of ambient temp. sensor	43	System low pressure switch off	4U30HS1ERA	40m 70m																														
13	Malfunction of compressor discharge temp. sensor	44	System high pressure protection, Refrigerant overabundance, High condensing temp. or malfunction of fan motor.	5U34HS1ERA	40m 80m																														
15	Communication failure between indoor&outdoor unit	45	System low pressure protection, Refrigerant shortage, Low defrosting temp., or malfunction of fan motor.	5U45S1ERA	40m 100m																														
16	Lack of refrigerant or discharging			3U19FS1ERA(N)	30m 50m																														
17	4-way valve switching failure			3U24GS1ERA(N)	30m 60m																														
18	Loss of synchronism detection																																		
20	Indoor thermal overload																																		
21	Indoor frosted																																		
23	Module thermal overload	Definition of SW1 on Malfunction Display <table border="1"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>Definition</th> </tr> </thead> <tbody> <tr> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>State when out of factory (Normal Operating)</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>Compressive Heating; Frequency 50HZ, PMV 200 pulse; Class 5 of outdoor fan motor.</td> </tr> <tr> <td>OFF</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>Compressive Cooling; Frequency 60HZ, PMV 200 pulse; Class 7 of outdoor fan motor.</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>OFF</td> <td>Rated Operating</td> </tr> <tr> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>Time Defrost Valid</td> </tr> </tbody> </table>				1	2	3	4	Definition	OFF	OFF	OFF	OFF	State when out of factory (Normal Operating)	ON	OFF	OFF	OFF	Compressive Heating; Frequency 50HZ, PMV 200 pulse; Class 5 of outdoor fan motor.	OFF	ON	OFF	OFF	Compressive Cooling; Frequency 60HZ, PMV 200 pulse; Class 7 of outdoor fan motor.	OFF	OFF	ON	OFF	Rated Operating	OFF	OFF	OFF	ON	Time Defrost Valid
1	2					3	4	Definition																											
OFF	OFF					OFF	OFF	State when out of factory (Normal Operating)																											
ON	OFF					OFF	OFF	Compressive Heating; Frequency 50HZ, PMV 200 pulse; Class 5 of outdoor fan motor.																											
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OFF	OFF					ON	OFF	Rated Operating																											
OFF	OFF					OFF	ON	Time Defrost Valid																											
24	Compressor start failure																																		
25	Module input overcurrent																																		
26	MCU reset																																		
27	Module current detect circuit malfunction																																		
28	Malfunction of liquid pipe temp. sensor for indoor unit A																																		
29	Malfunction of liquid pipe temp. sensor for indoor unit B																																		
30	Malfunction of liquid pipe temp. sensor for indoor unit C																																		
31	Malfunction of liquid pipe temp. sensor for indoor unit D																																		
32	Malfunction of gas pipe temp. sensor for indoor unit A																																		

* ECU:Electronic Control Unit
 * MCU:Micro Control Unit
 * PMV:Pulse Modulated Valve

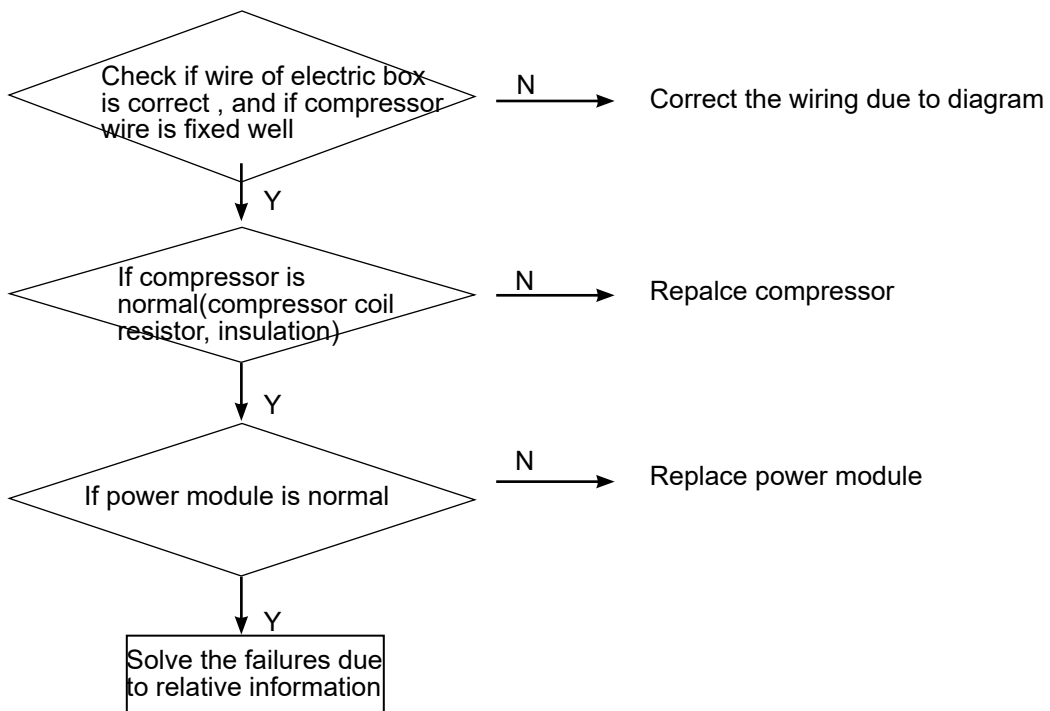
0150504996

6.9 Trouble Shooting

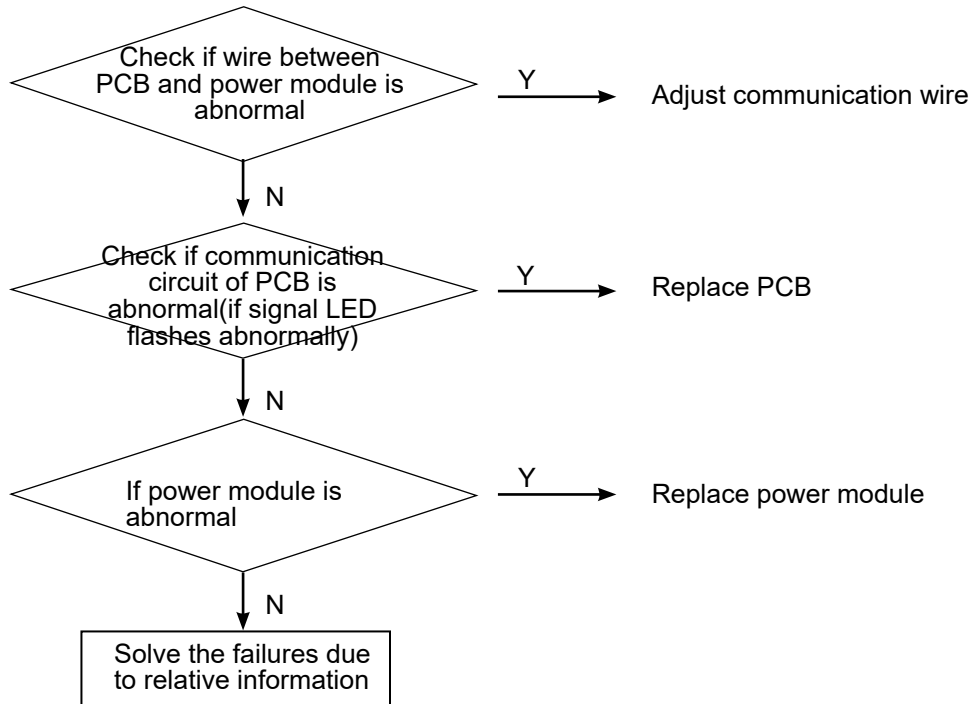
[1] Outdoor EEPROM Failure



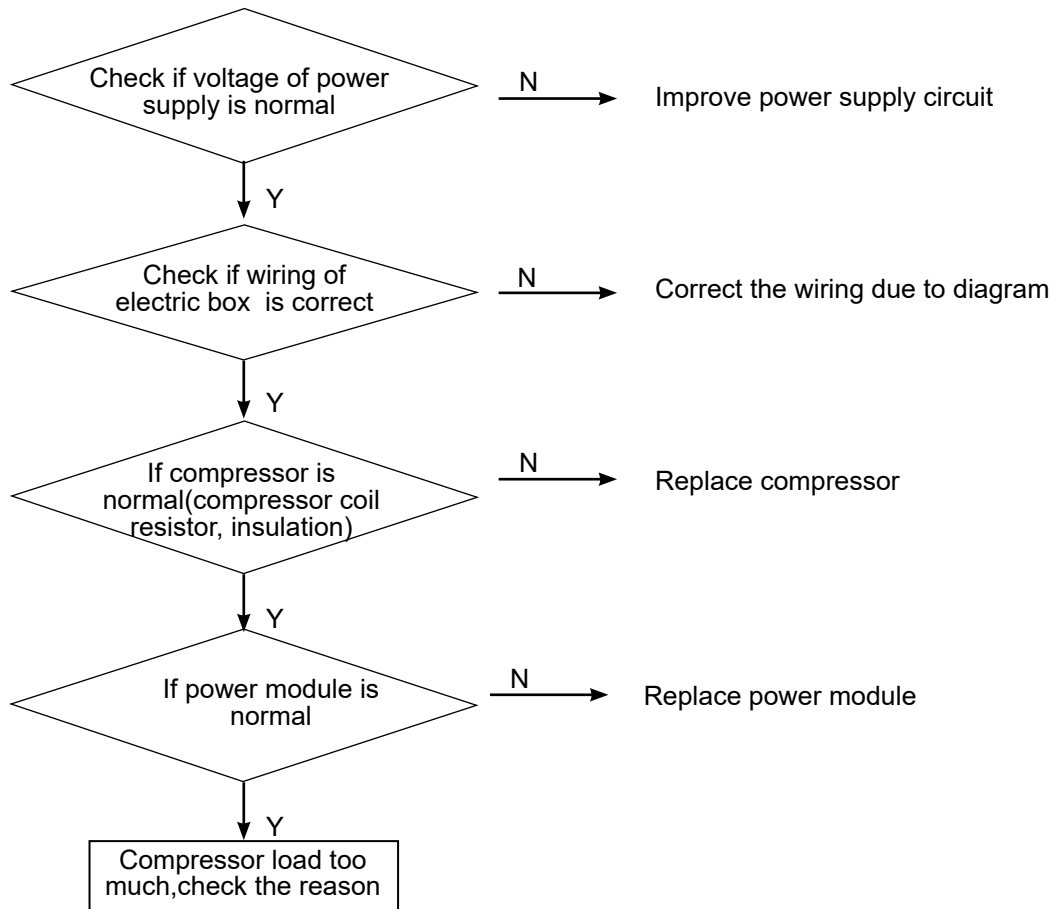
[2] IPM Over Current or Short Circuit



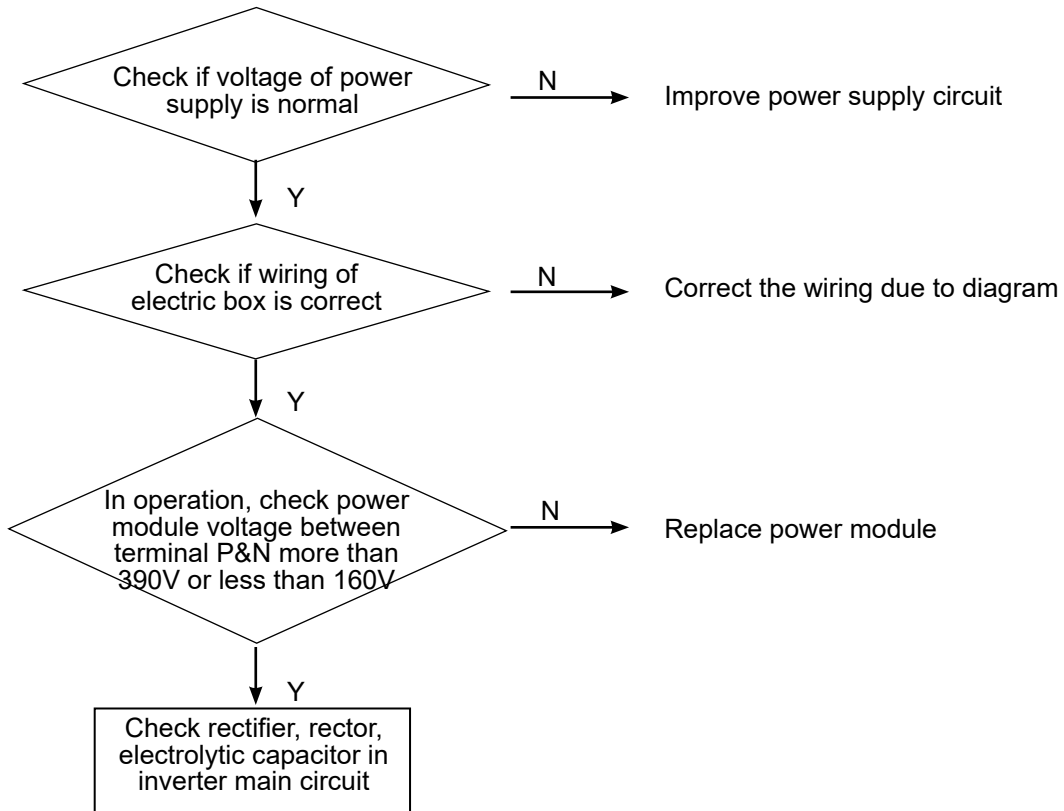
[4] Communication Failure Between Module Ans Ecu



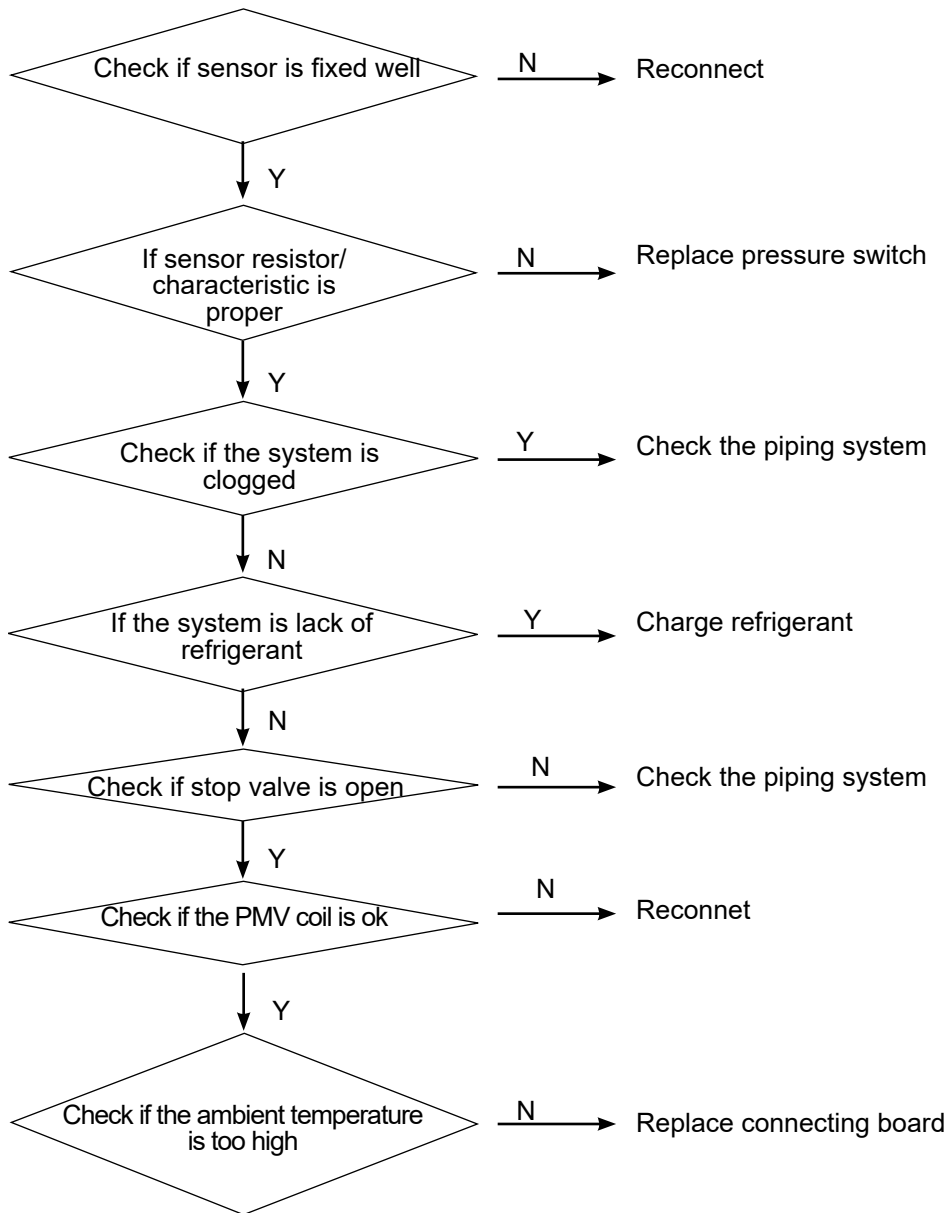
[5] Module Operated Overload



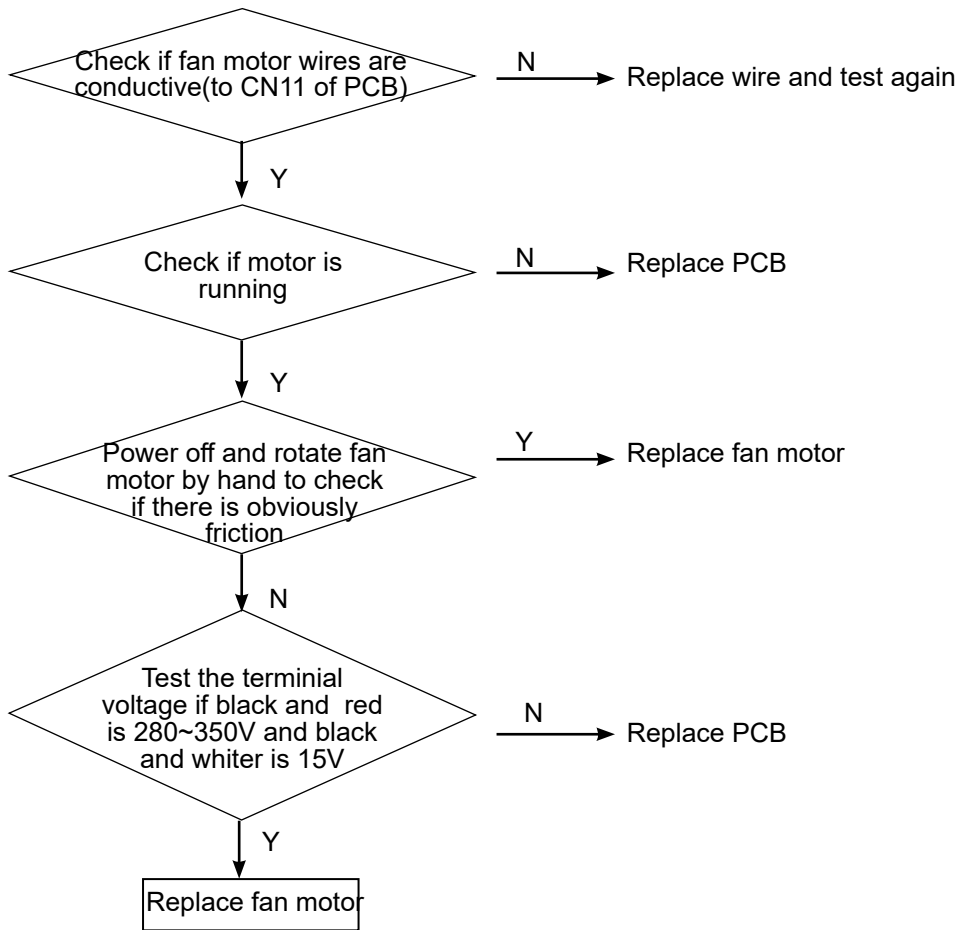
[6] Voltage too High or Low



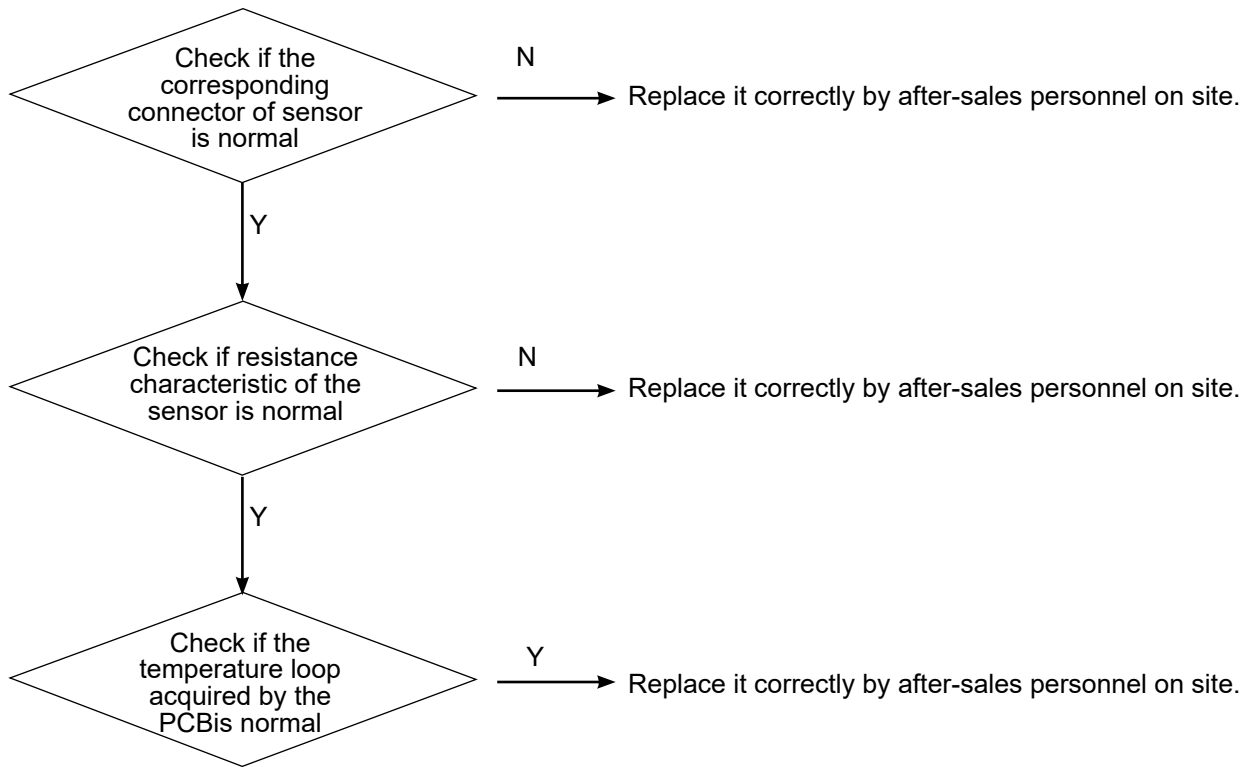
[8] Discharging Temperature Overheating



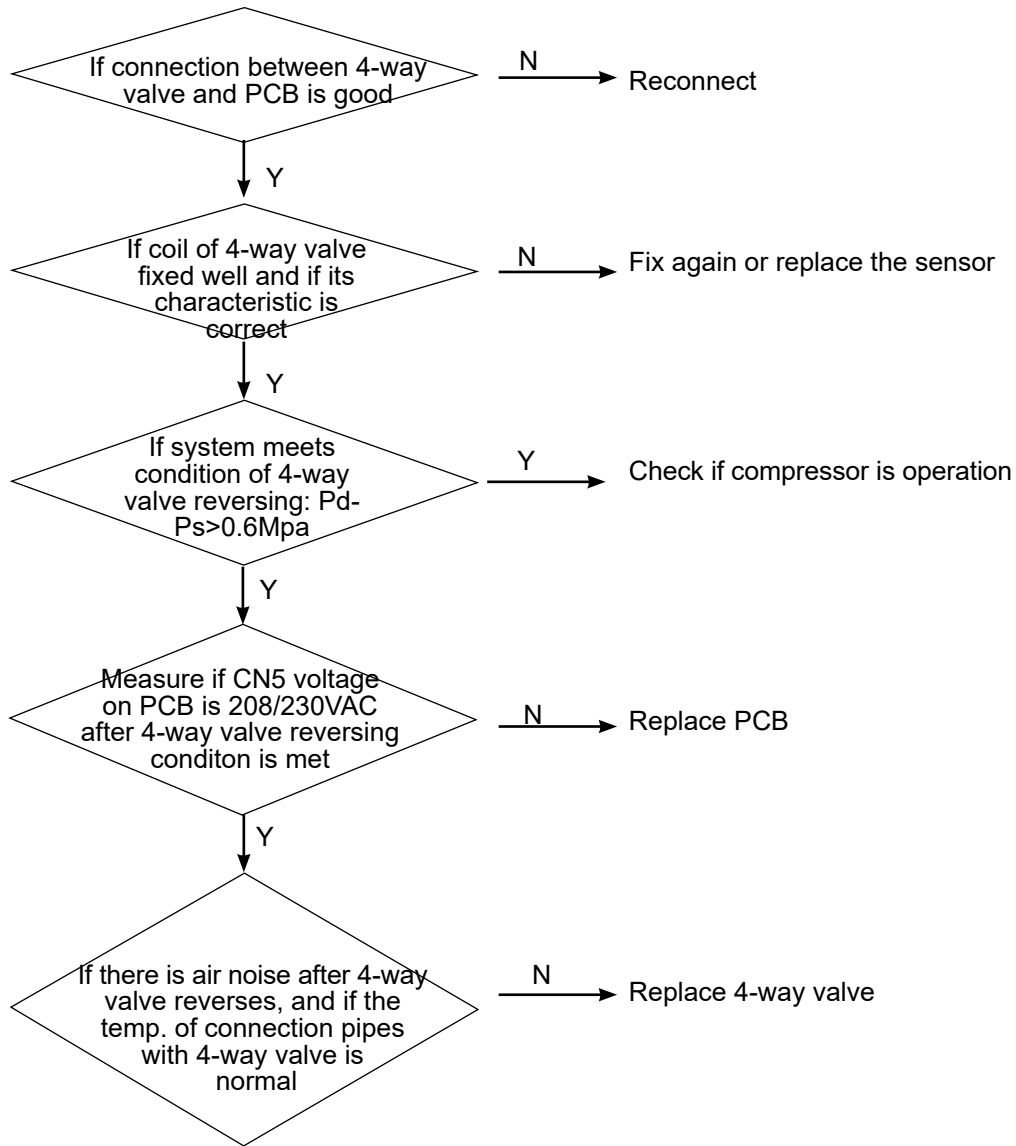
[9] DC Fan Motor Failure



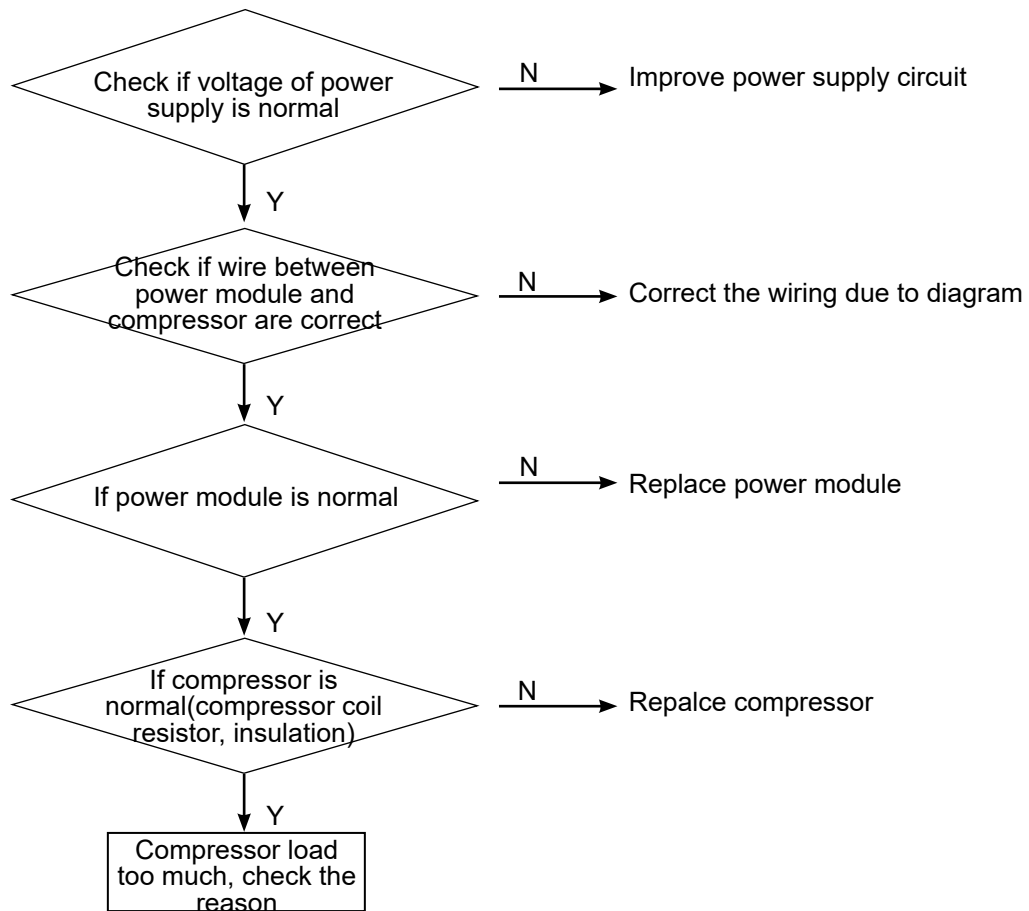
[10~13,28~36,38~41] Temperature Sensor Failure



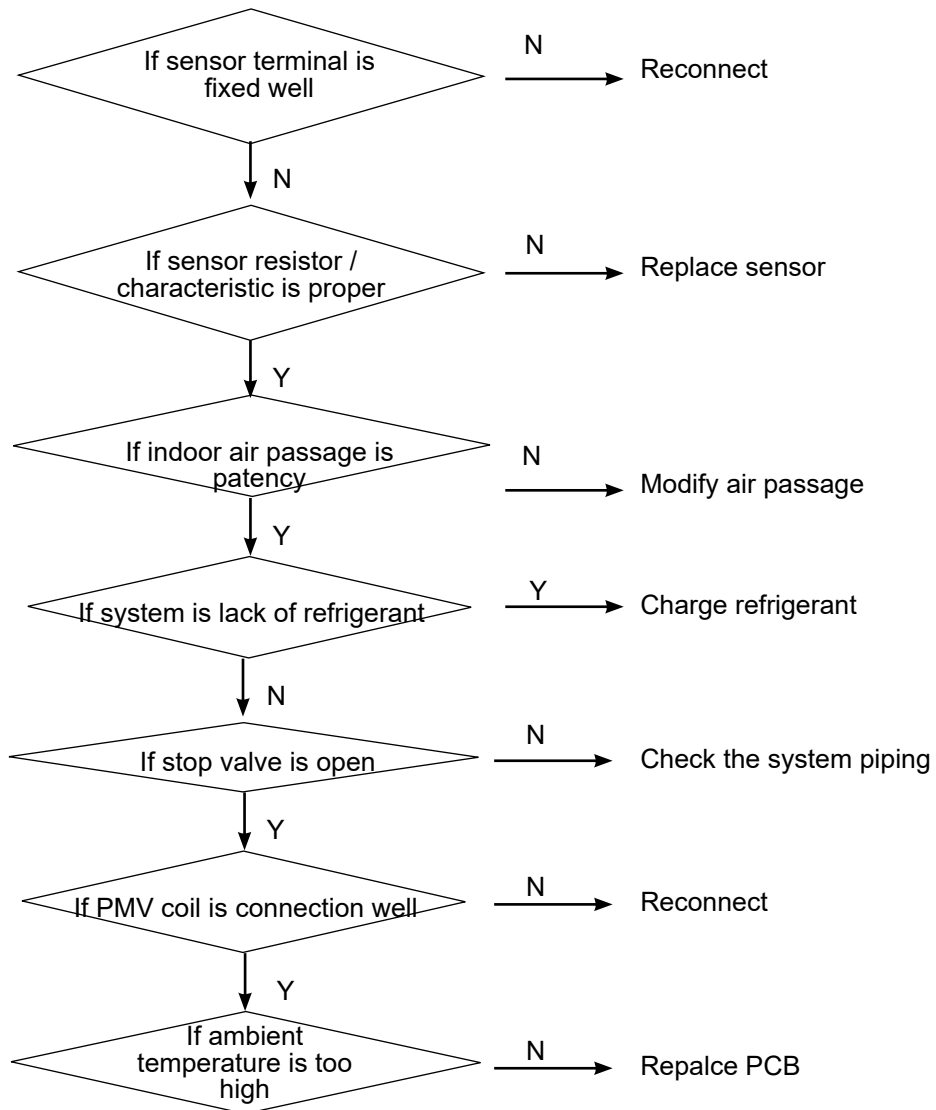
[17] 4-Way Valve Reversing Failure



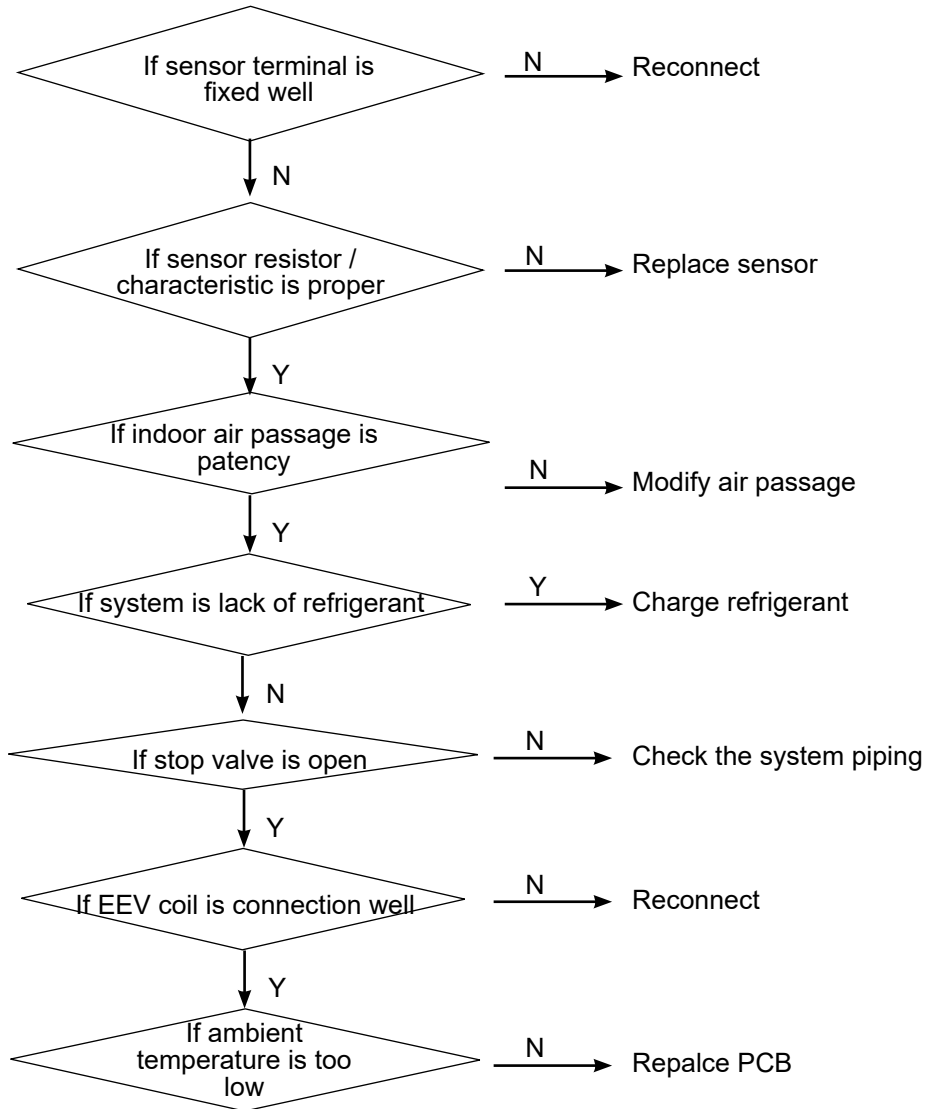
[18] Compressor Out Of Control Circuit



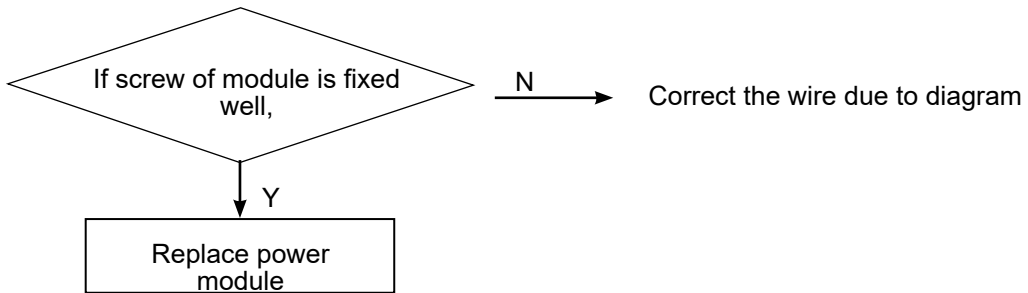
[20] Indoor Thermal Overload



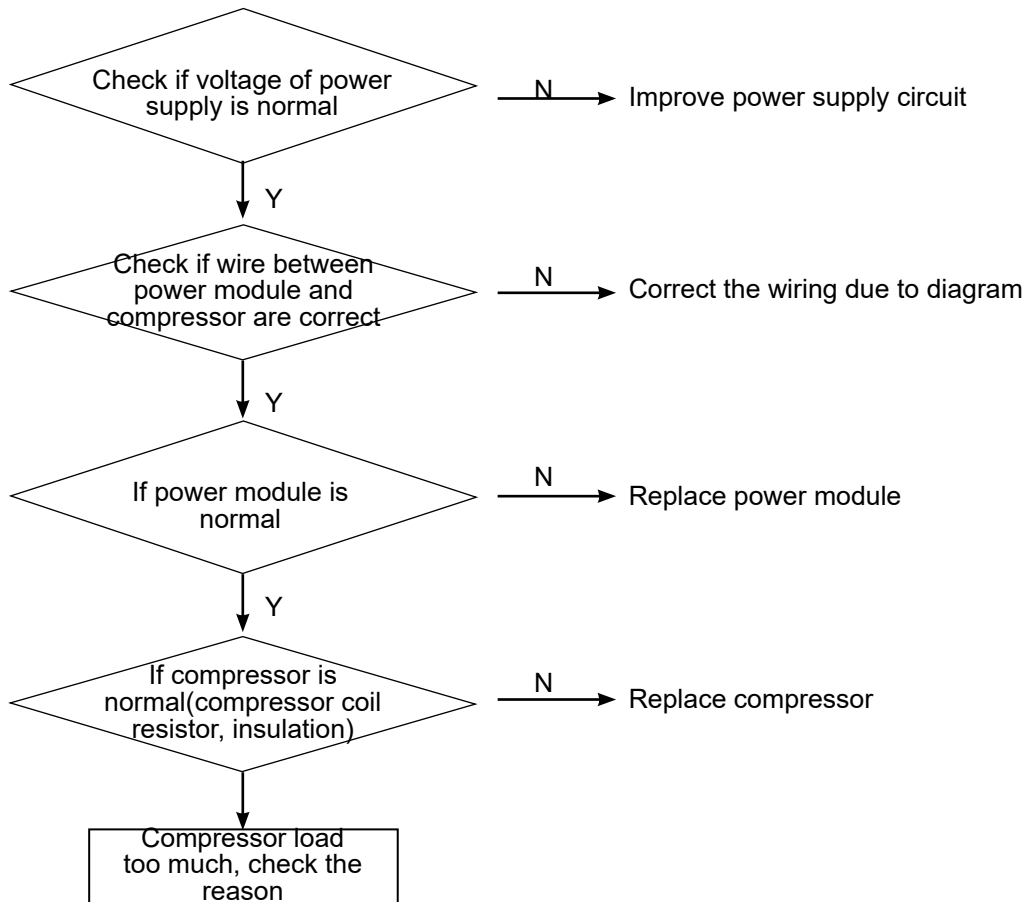
[21] Indoor Frosted



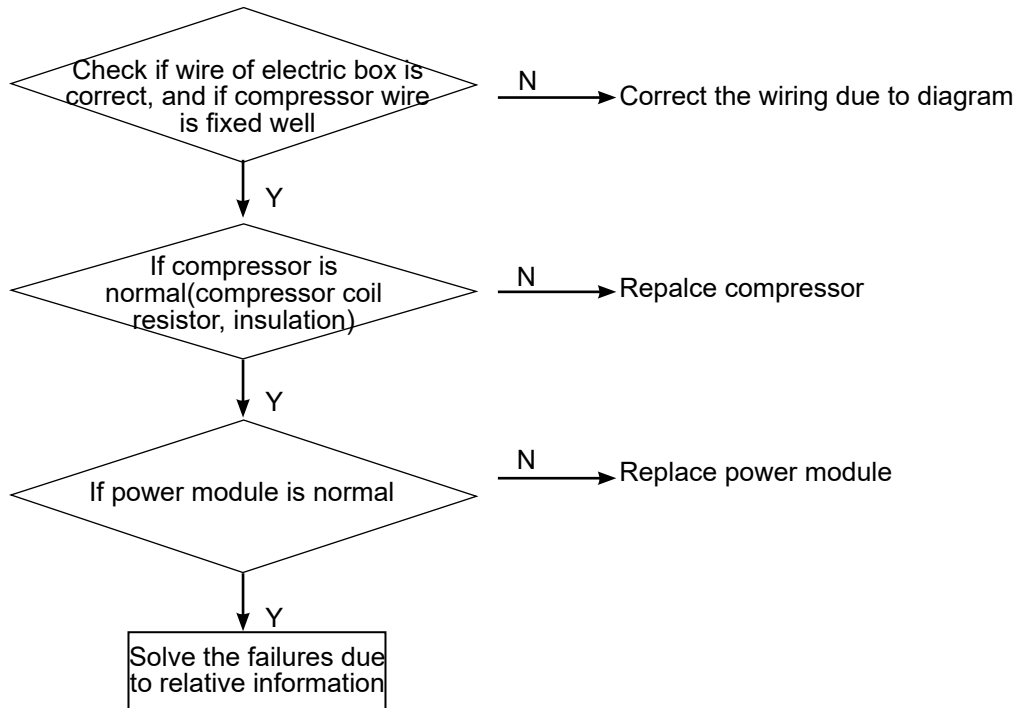
[23] Module Thermal Overload



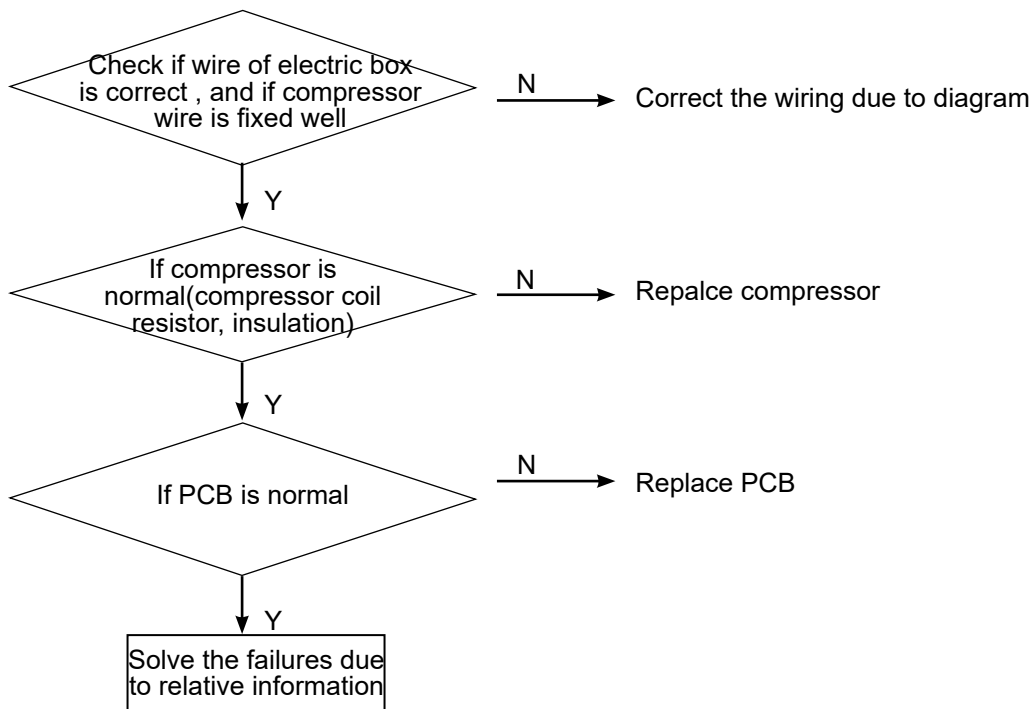
[24] Compressor Startup Failure



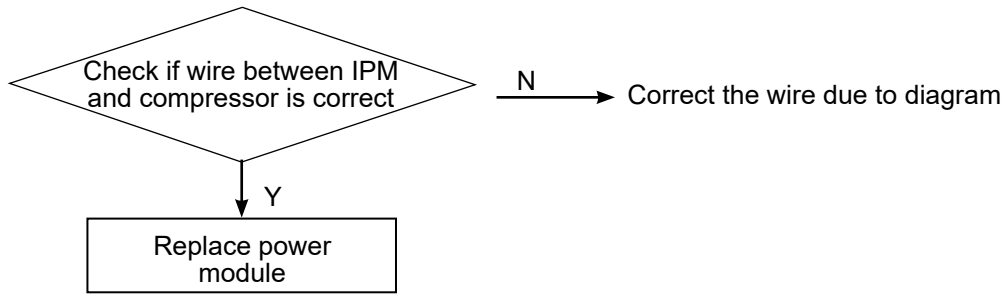
[25] Module Input Over-Current



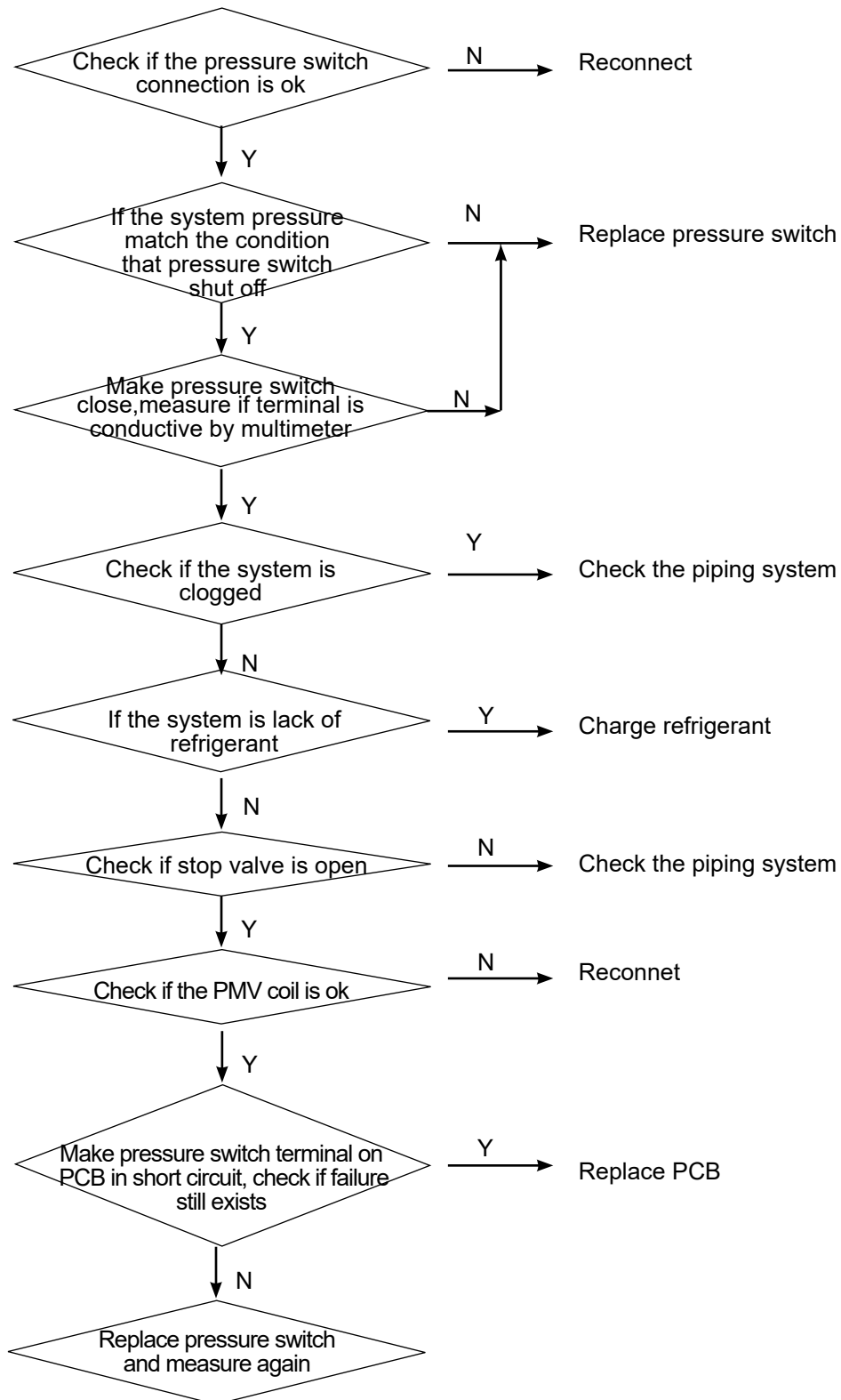
[26] MCU Reset



[27] Module Current Detect Circuit Failure



[42,43] High Or Low Pressure Switch Shut Off Failure



Appendix Sensor Characteristic

Model	Function	Part Code	Characteristic
4MXC2309BF0W0AA 4MXC2312BF0W0AA 4MXC2318BF0W0AA	Indoor Ambient Temperature Sensor	001A3900159	R25=23KΩ±3% B25/50=4200K±3%
4MXD2309BF0R0AA 4MXD2312BF0R0AA 4MXD2318BF0R0AA 4MXD2324BF0R0AA	Indoor Coil Temperature Sensor	001A3900006	R25=10KΩ±3% B25/50=3700K±3%
4MXC2324BF0W0AA	Indoor Ambient Temperature Sensor	0150402268	R25=10KΩ±3% B25/50=3700K±3%
	Indoor Coil Temp. Sensor	0010401922	R25=10KΩ±3% B25/50=3700K±3%

Model	Function	Part Code	Characteristic
4TXM2318BF300AA 4TXM2324BF300AA	Gas Liquid Sensor	0150402454	R25=10KΩ±3% B25/50=3700K±3%
	Defrost Temperature Sensor	0150402521	R25=10KΩ±3% B25/50=3700K±3%
4TXM2330BF400AA	Gas Liquid Sensor	0150402453A	R25=10KΩ±3% B25/50=3700K±3%
	Defrost Temperature Sensor	0150402521	R25=10KΩ±3% B25/50=3700K±3%
4TXM2336BF500AA 4TXM2342BF500AA	Gas liquid sensor	0150402453	R25=10KΩ±3% B25/50=3700K±3%
	Defrosting temp sensor	0150402521	R25=10KΩ±3% B25/50=3700K±3%

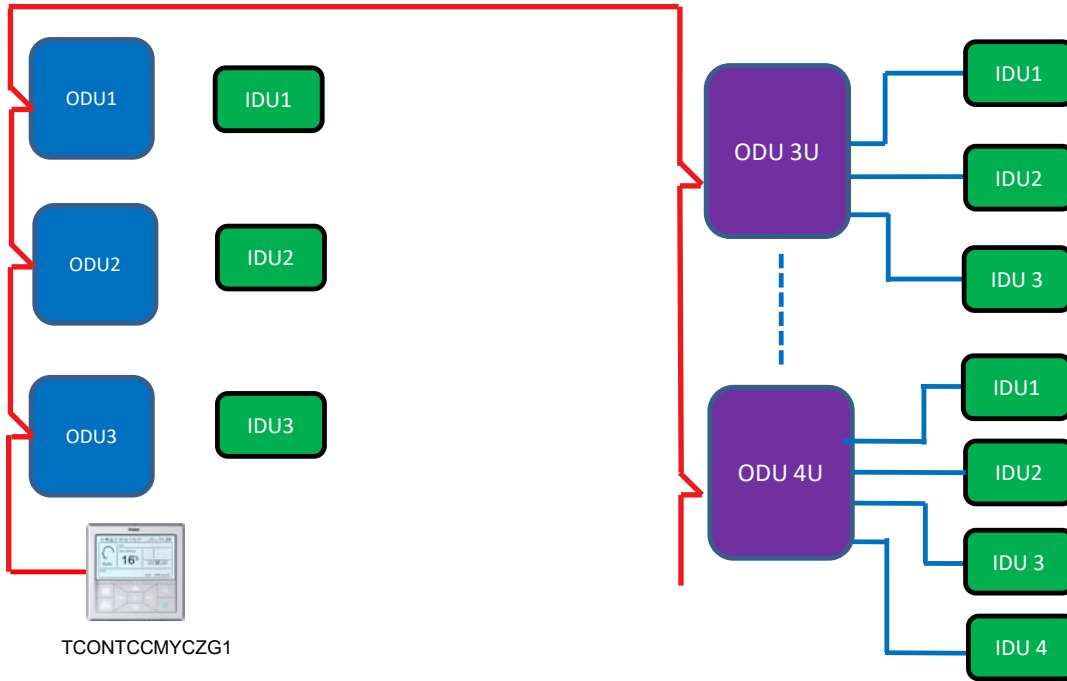
**TRANE®**

R25=10KΦ±3% B25/50=3700K±3%		R25=10KΦ±3% B25/50=3700K±3%	
T (°C)	Rnom (KΦ)	T (°C)	Rnom (KΦ)
-20	90.79	31	7.83
-19	85.72	32	7.52
-18	80.96	33	7.23
-17	76.51	34	6.95
-16	72.33	35	6.68
-15	68.41	36	5.43
-14	64.73	37	5.6
-13	61.27	38	5.59
-12	58.02	39	5.73
-11	54.97	40	5.52
-10	52.1	41	5.32
-9	49.4	42	5.12
-8	46.86	43	4.93
-7	44.46	44	4.9
-6	42.21	45	4.58
-5	40.08	46	4.42
-4	38.08	47	4.26
-3	36.19	48	4.11
-2	34.41	49	3.97
-1	32.73	50	3.83
0	31.14	51	3.7
1	29.64	52	3.57
2	28.22	53	3.45
3	26.4	54	3.33
4	25.61	55	3.22
5	24.41	56	3.11
6	23.27	57	3.11
7	22.2	58	2.9
8	21.18	59	2.81
9	20.21	60	2.72
10	19.3	61	2.63
11	18.43	62	2.54
12	17.61	63	2.49
13	16.83	64	2.38
14	16.09	65	2.3
15	15.38	66	2.23
16	14.71	67	2.16
17	14.08	68	2.09
18	13.48	69	2.03
19	12.9	70	1.96
20	12.36	71	1.9
21	11.84	72	1.85
22	11.34	73	1.79
23	10.87	74	1.73
24	10.43	75	1.68
25	10	76	1.63
26	9.59	77	1.58
27	9.21	78	1.54
28	8.84	79	1.49
29	8.48	80	1.45
30	8.15		

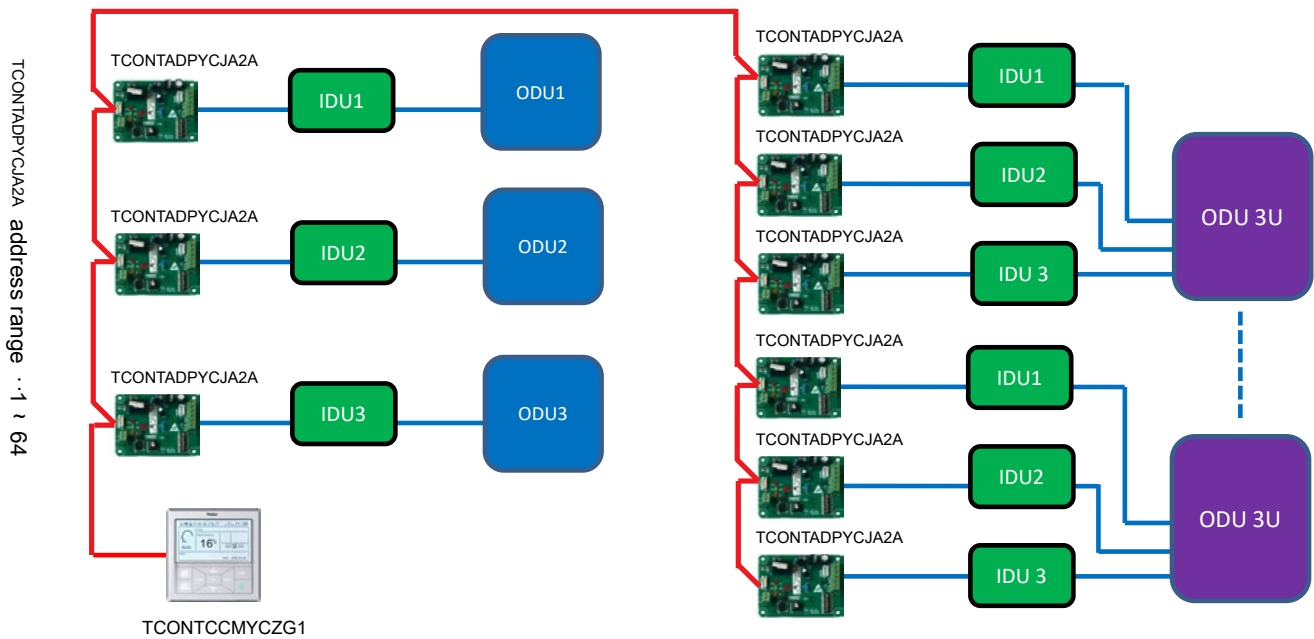
R25=23KΩ±3%B25/50=4200K±3%							
T (°C)	Rnom (KΩ)	T (°C)	Rnom (KΩ)	T (°C)	Rnom (KΩ)	T (°C)	Rnom (KΩ)
-10	149.07	27	20.94	64	4.52	101	1.32
-9	140.35	28	20.00	65	4.36	102	1.28
-8	132.20	29	19.10	66	4.21	103	1.25
-7	124.59	30	18.24	67	4.05	104	1.21
-6	117.46	31	17.43	68	3.91	105	1.18
-5	110.79	32	16.66	69	3.77	106	1.14
-4	104.54	33	15.93	70	3.64	107	1.11
-3	98.69	34	15.24	71	3.51	108	1.08
-2	93.20	35	14.58	72	3.39	109	1.05
-1	88.06	36	13.95	73	3.28	110	1.02
0	83.23	37	13.35	74	3.16	111	0.99
1	78.70	38	12.79	75	3.06	112	0.96
2	74.45	39	12.25	76	2.95	113	0.93
3	70.46	40	11.73	77	2.85	114	0.91
4	66.70	41	11.24	78	2.76	115	0.88
5	63.18	42	10.78	79	2.66	116	0.86
6	59.86	43	10.33	80	2.58	117	0.84
7	56.74	44	9.91	81	2.49	118	0.81
8	53.80	45	9.51	82	2.41	119	0.79
9	51.03	46	9.12	83	2.33	120	0.77
10	48.42	47	8.76	84	2.26	121	0.75
11	45.97	48	8.41	85	2.18	122	0.73
12	43.65	49	8.07	86	2.11	123	0.71
13	41.46	50	7.75	87	2.05	124	0.69
14	39.40	51	7.45	88	1.98	125	0.67
15	37.46	52	7.16	89	1.92	126	0.66
16	35.62	53	6.88	90	1.86	127	0.64
17	33.89	54	6.62	91	1.80	128	0.62
18	32.25	55	6.36	92	1.74	129	0.61
19	30.70	56	6.12	93	1.69	130	0.59
20	29.23	57	5.89	94	1.64	131	0.58
21	27.84	58	5.67	95	1.59	132	0.56
22	26.53	59	5.46	96	1.54	133	0.55
23	25.29	60	5.25	97	1.49	134	0.53
24	24.11	61	5.06	98	1.45		
25	23.00	62	4.87	99	1.41		
26	21.94	63	4.70	100	1.36		

6.10 Central Control Solution

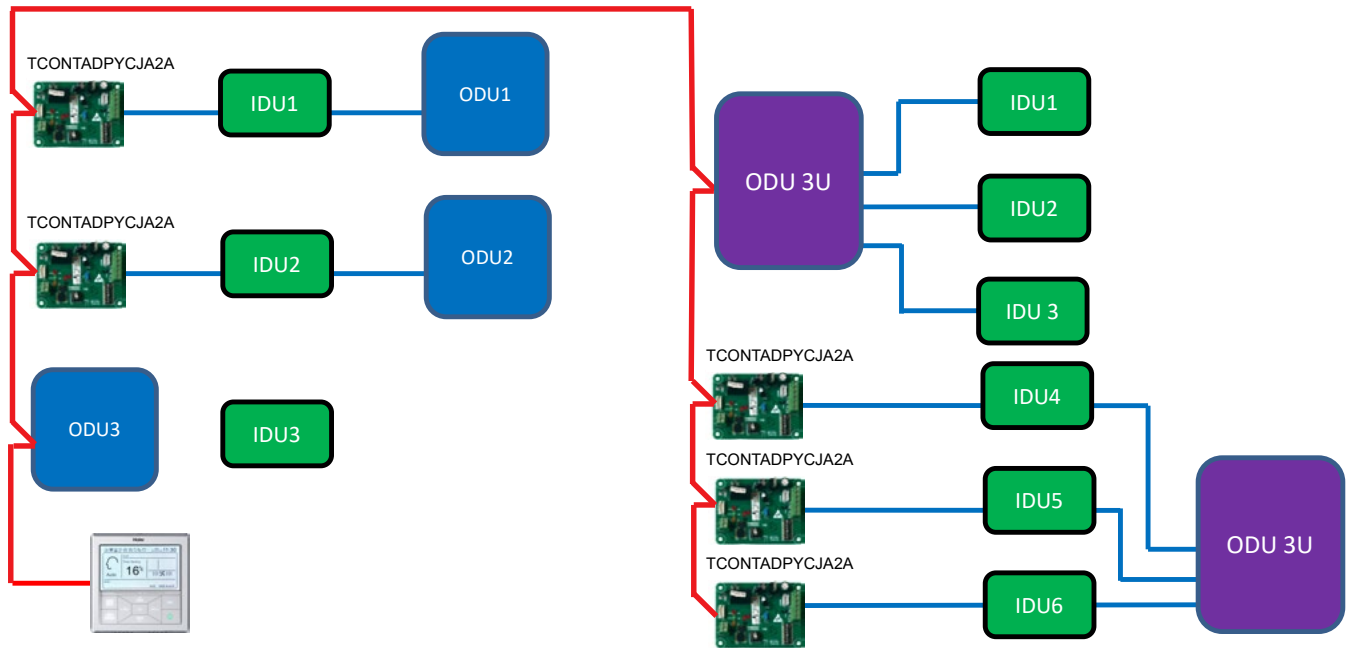
Wiring Diagram through ODU



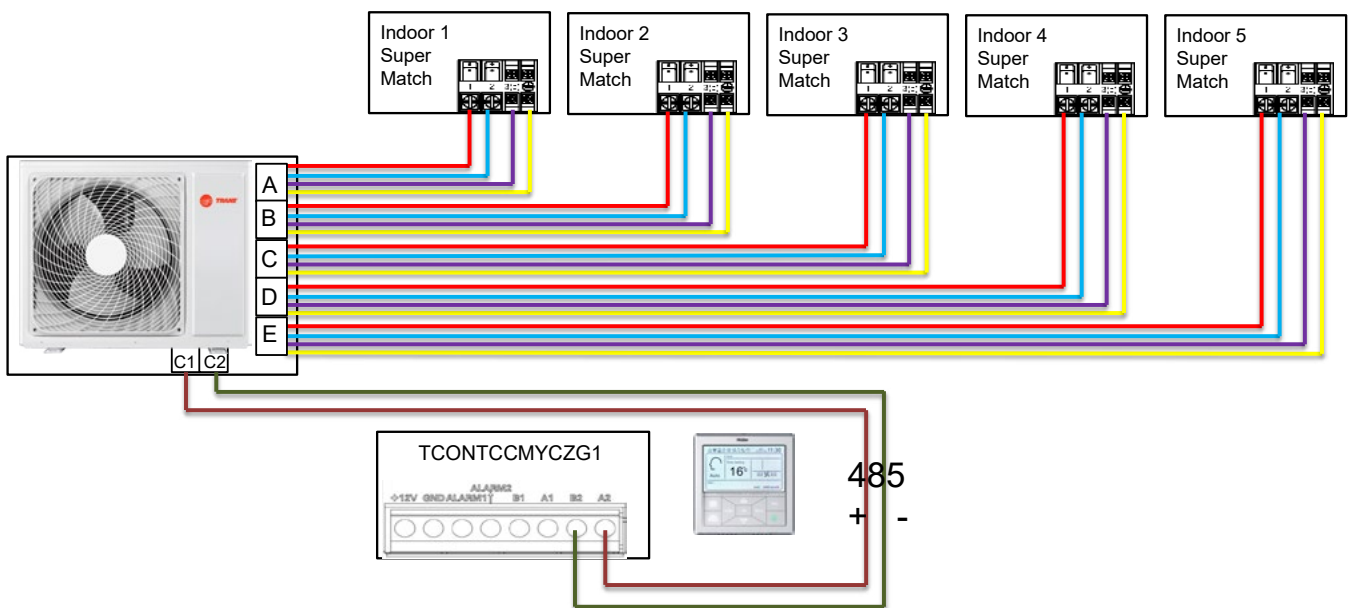
Wiring Diagram through IDU



Wiring Diagram mixed

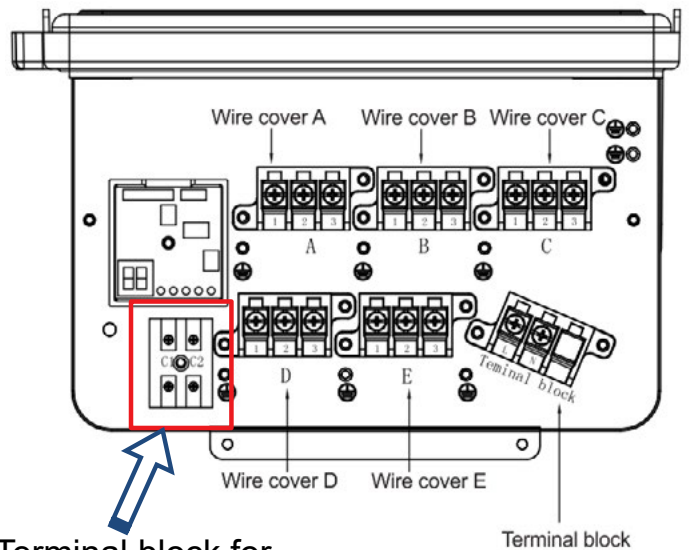
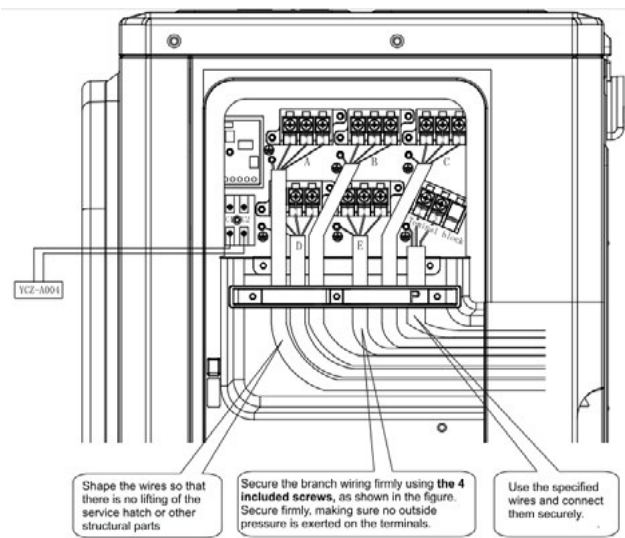


Outdoor unit connect to TCONTCCMYCZG1

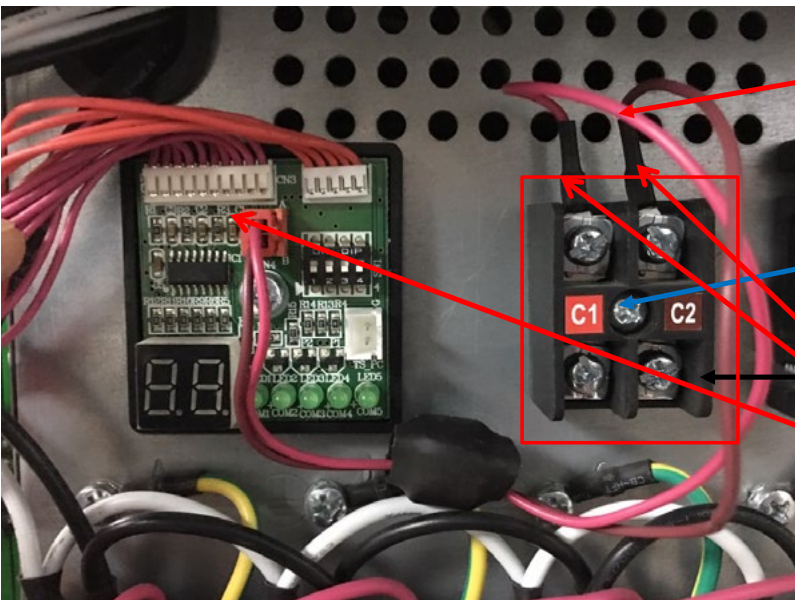
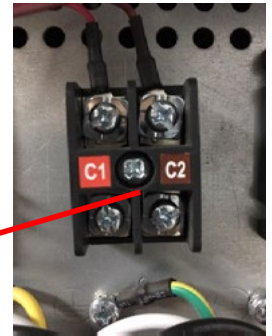
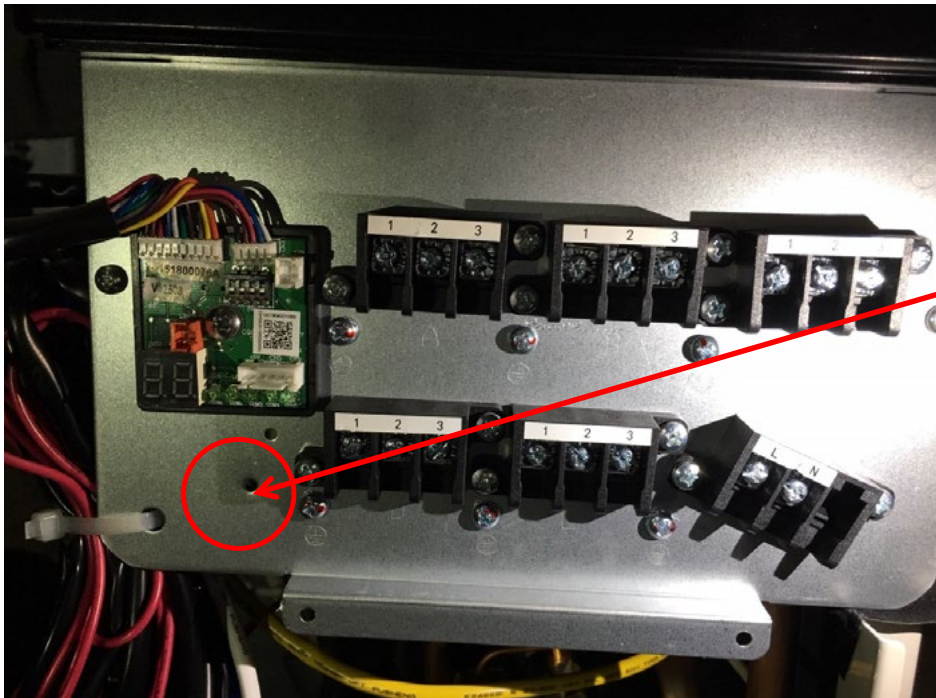


Central Control Port-ODU

Series	Model	Main PCB	Service PCB	Port	Terminal Block
Umatch	4TXK6512G1000AA				
	4TXK6518G1000AA				
	4TXK6524G1000AA				
Umatch	4TXK6536G1000AA				
	4TXK6548G1000AA				
	4TXK6560G1000AA				
Multi	4TXM2318BF200AA				
Multi	4TXM2318BF300AA	0151800364D	0151800076A	CN4	C1 C2
	4TXM2324BF300AA				
Multi	4TXM2330BF400AA	0151800364C	0151800076A	CN4	C1 C2
	4TXM2336BF500AA				
	4TXM2342BF500AA				



Terminal block for Central controller



Connection cable-0150400330

Screw-0010600325

Terminal block-0010452210E

Install the connection cable like this way

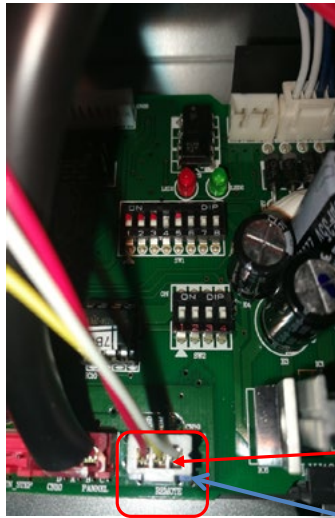
Address Setting-Umatch ODU

SW6 dip switch setting								Unit address for central control
SW6-1	SW6-2	SW6-3	SW6-4	SW6-5	SW6-6	SW6-7	SW6-8	
0	0	0	0	0	0	0	0	Address 0
0	0	0	0	0	0	0	1	Address 1
0	0	0	0	0	0	1	0	Address 2
0	0	0	0	0	0	1	1	Address 3
0	0	0	0	0	1	0	0	Address 4
0	0	0	0	0	1	0	1	Address 5
0	0	0	0	0	1	1	0	Address 6
0	0	0	0	0	1	1	1	Address 7
0	0	0	0	1	0	0	0	Address 8
0	0	0	0	1	0	0	1	Address 9
0	0	0	0	1	0	1	0	Address 10
0	0	0	0	1	0	1	1	Address 11
0	0	0	0	1	1	0	0	Address 12
.....							
1	1	1	1	1	1	1	1	Address 256

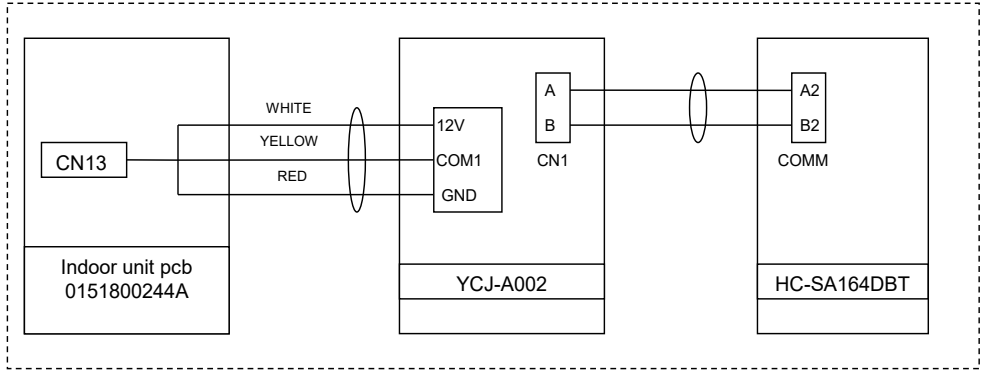
Address Setting-Multi ODU

Indoor unit Central Control Address										
Set Address by Outdoor PCB					Indoor connect port					
3U***					A	B	C			
4U***					A	B	C	D		
5U***					A	B	C	D	E	
					Indoor central control address					
SW06					4	3	2	1	1	2
	0	0	0	0	1	2	3	4	5	
	0	0	0	1	6	7	8	9	10	
	0	0	1	0	11	12	13	14	15	
	0	0	1	1	16	17	18	19	20	
	0	1	0	0	21	22	23	24	25	
	0	1	0	1	26	27	28	29	30	
	0	1	1	0	31	32	33	34	35	
	0	1	1	1	36	37	38	39	40	
	1	0	0	0	41	42	43	44	45	
	1	0	0	1	46	47	48	49	50	
	1	0	1	0	51	52	53	54	55	
	1	0	1	1	56	57	58	59	60	
	1	1	0	0	61	62	63	64	65	
	1	1	0	1	66	67	68	69	70	
	1	1	1	0	71	72	73	74	75	
	1	1	1	1	76	77	78	79	80	

Control With TCONTADPYCJA2A



Connect to Umatch/Multi indoor unit by the Remote port

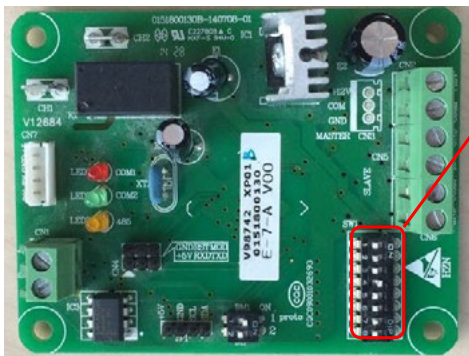


Remote

CN13

Set Single Split address by SW1 of TCONTADPYCJA2A

For TCONTCCMYCZG1, the range of address is "1-32"



SW1(1 mean ON, 0 mean OFF)								Definition: unitary air conditioner
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	
-	0	0	0	0	0	0	0	Single mode address =1
-	0	0	0	0	0	0	1	Single mode address =2
-	--	--	--	--	--	--	--	----
-	0	1	0	0	1	1	0	Single mode address =39
-	0	1	0	0	1	1	1	Single mode address =40
-	--	--	--	--	--	--	--	----
-	0	1	1	1	1	1	1	Single mode address =63
-	1	0	0	0	0	0	0	Single mode address =64
-	--	--	--	--	--	--	--	----
-	1	1	1	1	1	1	0	Single mode address =127
-	1	1	1	1	1	1	1	Single mode address =128



Set BM1 as “ 0 0” Single Split model

BM1		
0:OFF	1:ON	
[1]	[2]	485 Communication Details
0	0	Single Split model
1	0	VRF model
0	1	Modbus RTU standard protocol
1	1	BMS system