



Installation, Operation, and Maintenance

GMV Dual Fuel A-coil Indoor Unit

Model Number:

TRN-IAC24A1

TRN-IAC36A1

TRN-IAC48A1

TRN-IAC60A1

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

⚠ AVERTISSEMENT DE SÉCURITÉ

Seul le personnel qualifié doit installer et procéder à l'entretien des équipements. L'installation, le démarrage et la réparation des équipements de chauffage, de ventilation et de climatisation peuvent être dangereux et nécessitent une formation et des connaissances spécifiques. Un équipement mal installé, réglé ou modifié par un individu non qualifié peut entraîner des blessures graves, voire mortelles. Lors de toute intervention sur l'équipement, respectez toutes les précautions figurant dans la documentation et sur les étiquettes et autocollants fixés à l'équipement.

Preface

For correct installation and operation, please read all instructions carefully. Before reading the instructions, please be aware of the following items:

⚠ DANGER	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
⚠ WARNING	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
⚠ CAUTION	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.
NOTICE	NOTICE is used to address practices not related to personal injury.

⚠ WARNING	
(1)	The design standard of multi VRF system conforms to related standard of sales countries.
(2)	To ensure safety when operating this system, please strictly follow the instructions in this manual.
(3)	The total capacity of running indoor units must not exceed that of the outdoor units. Otherwise, the cooling (heating) effect of each IDU would be poor.
(4)	Make sure that this manual is kept by direct operators and maintainers.
(5)	If the product needs to be installed, moved or maintained, please contact our designated dealer or local service center for professional support. Users should not disassemble or maintain the unit by themselves, otherwise it may cause relative damage, and our company will bear no responsibilities.
(6)	All the illustrations and information in the instruction manual are only for reference. In order to make the product better, we will continuously conduct improvement and innovation. If there is adjustment in the product, please subject to actual product.
(7)	Under the standby status, the unit will consume a little power for ensuring reliability of the complete unit, maintaining normal communication and preheating refrigerant. When the unit won't be used for a long time, please cut off the power of the complete unit. However, please preheat it when operating the unit next time.

User Notice

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.

DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.



Exception Clauses
Manufacturer will bear no responsibilities when personal injury or property loss is caused by the following reasons:
(1) Damage the product due to improper use or misuse of the product;
(2) Alter, change, maintain or use the product with other equipment without abiding by the instruction manual of manufacturer;
(3) After verification, the defect of product is directly caused by corrosive gas;
(4) After verification, defects are due to improper operation during transportation of product;
(5) Operate, repair, maintain the unit without abiding by instruction manual or related regulations;
(6) After verification, the problem or dispute is caused by the quality specification or performance of parts and components that produced by other manufacturers;
(7) The damage is caused by natural calamities, bad using environment or force majeure.

Contents

1 Safety Precautions	1
2 Product Introduction	2
2.1 Names of Key Components	2
2.2 Rated Working Condition	2
2.3 The Range of Production Working Temperature	2
3 Preparations for Installation	3
3.1 Pre-Installation Instruction	3
3.2 Important Safety Instructions	3
3.3 Wiring Requirements and Fuse Capacity	4
4 Installation Instructions	5
4.1 Dimension Data	5
4.2 Location	5
4.3 Piping Work	6
4.4 Condensate Removal	7
4.5 Ductwork	7
4.6 Unit Installation	8
4.7 Sealing Ducts	10
4.8 Leak Testing, Vacuuming and Charging	10
5 Wiring Work	10
5.1 Connection of Wire and Patch Board Terminal	11
5.2 Power Cord Connection	11
5.3 Connection of Communication Wire between Indoor Unit and Outdoor Unit (or indoor unit)	12
5.4 Connection between the Third Party Thermostat and 24V Adapter	13
5.5 Description of Field Wiring Hole of Electrical Box	14
6 Temperature Protection and Function Settings	14
6.1 High Temperature Protection	14
6.2 Unit Function Operations	14
7 Routine Maintenance	15
7.1 Maintenance before the Seasonal Use	15
7.2 Maintenance after the Seasonal Use	16
8 Table of Error Codes for Indoor Unit	16
9 Troubleshooting	17

1 Safety Precautions

⚠ WARNING
(1) This product can't be installed at corrosive, inflammable or explosive environment or the place with special requirements, such as kitchen. Otherwise, it will affect the normal operation or shorten the service life of the unit, or even cause fire hazard or serious injury. As for above special places, please adopt special air conditioner with anti-corrosive or anti-explosion function.
(2) Follow this instruction to complete the installation work. Please carefully read this manual before unit startup and service.
(3) Wire size of power cord should be large enough. The damaged power cord and connection wire should be replaced by exclusive cable.
(4) After connecting the power cord, please fix the electric box cover properly in order to avoid accident.
(5) Never fail to comply with the nitrogen charge requirements. Charge nitrogen when welding pipes.
(6) Never short-circuit or cancel the pressure switch to prevent unit damage.
(7) As for the unit controlled by the thermostat, connect the thermostat well firstly and then energize the unit; otherwise, the unit can't operate normally.
(8) Before using the unit, please check if the piping and wiring are correct to avoid water leakage, refrigerant leakage, electric shock, or fire etc.
(9) Do not insert fingers or objects into air outlet/inlet.
(10) Open the door and window and keep good ventilation in the room to avoid oxygen deficit when the gas/oil supplied heating equipment is used.
(11) Never start up or shut off the air conditioner by means of directly plug or unplug the power cord.
(12) Turn off the unit after it runs at least five minutes; otherwise it will influence oil return of the compressor.
(13) Do not allow children operate this unit.
(14) Do not operate this unit with wet hands.
(15) Turn off the unit or cut off the power supply before cleaning the unit, otherwise electric shock or injury may happen.
(16) Never spray or flush water towards unit, otherwise malfunction or electric shock may happen.
(17) Do not expose the unit to the moist or corrosive circumstances.
(18) Under cooling mode, please don't set the room temperature too low.
(19) User is not allowed to repair the unit. Fault service may cause electric shock or fire accidents. Please contact our designated dealer or local service center for help.
(20) Before installation, please check if the power supply is in accordance with the requirements specified on the nameplate. And also take care of the power safety.
(21) Installation should be conducted by dealer or qualified personnel. Please do not attempt to install the unit by yourself. Improper handling may result in water leakage, electric shock or fire disaster etc..
(22) Be sure to use the exclusive accessory and part to prevent the water leakage, electric shock and fire accidents.
(23) Electrify the unit 8 hours before operation. Please switch on for 8 hours before operation. Do not cut off the power when 24 hours short-time halting (to protect the compressor).
(24) If refrigerant leakage happens during installation, please ventilate immediately. Poisonous gas will emerge if the refrigerant gas meets fire.
(25) Volatile liquid, such as diluent or gas will damage the unit appearance. Only use soft cloth with a little neutral detergent to clean the outer casing of unit.
(26) If anything abnormal happens (such as burning smell), please power off the unit and cut off the main power supply, and then immediately contact our designated dealer or local service center. If abnormality keeps going, the unit might be damaged and lead to electric shock or fire.
(27) The unit shall only be connected to the appliance that is suitable for the same refrigerant.
(28) This unit is a partial unit air conditioner, complying with partial unit conditioner requirements of UL60335-2-40/CSA C22.2 No.60335-2-40. This unit must only be connected to other units that have been confirmed as complying to corresponding partial unit conditioner requirements of UL60335-2-40/CSA C22.2 No.60335-2-40, or UL 1995/CSA C22.2 No236.
(29) The maximum allowable pressure of the external partial unit can not exceed the maximum allowable pressure of this unit.

⚠ WARNING
(30) HVAC systems may experience operational disruptions due to electromagnetic interference (EMI), potentially affecting medical devices and broadcast signal transmissions. Conversely, variable-frequency drives (VFDs), dedicated generators, high-frequency medical devices, and radio communication equipment may also interfere with HVAC system operation.
(31) The mounting bracket shall remain structurally sound throughout its service life. Any degradation must be repaired immediately; failure to do so may cause equipment detachment, resulting in personal injury or property damage.
(32) Handle equipment with care during transportation. Team handling is required; use appropriate handling equipment. Never grasp the packaging straps; wear safety gloves during unpacking and handling to prevent injury.
(33) Do not turn off the power immediately after stopping operation. Always wait for at least 5 minutes before turning off the power. Otherwise, it may cause water leakage or equipment damage.
(34) Consult local building codes and National Electrical Code (NEC) for special requirements. Recognize safety information. In Canada, refer to the current editions of the Canadian Electrical Code CSA C22.1.

If the product needs to be installed, moved or maintained, please contact our designated dealer or local service center for professional support, otherwise our company would bear no legal reliability for the related damages arising therefrom.

2 Product Introduction

2.1 Names of Key Components

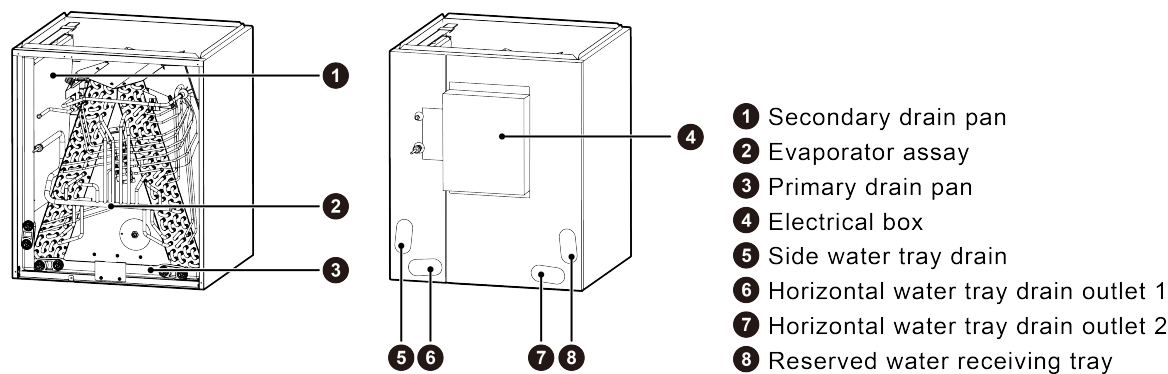


Fig.2.1.1

2.2 Rated Working Condition

—	Indoor Side Condition		Outdoor Side Condition	
	Dry Bulb Temp°C(°F)	Wet Bulb Temp°C(°F)	Dry Bulb Temp°C(°F)	Wet Bulb Temp°C(°F)
Rated Cooling	26.7(80.0)	19.4(67.0)	35(95.0)	23.9(75.0)
Rated Heating	21.1(70.0)	15.6(60.0)	8.3(47.0)	6.1(43.0)

2.3 The Range of Production Working Temperature

—	Cooling	Heating
Indoor temperature	14°C(57.2°F)~25°C(77°F)WB	15°C(59°F)~27°C(80.6°F)DB
Indoor humidity	≤80%	

3 Preparations for Installation

NOTICE Product graphics are only for reference. Please refer to actual products. Unspecified measure unit is mm(inch).

3.1 Pre-Installation Instruction

3.1.1 Checking Product Received

After receiving the product, please check if there is any damage caused by transportation. Shipping damage is the responsibility of the carrier. Verify the model No., specifications and accessories are correct prior to installation. The distributor or manufacturer will not accept claims from dealers for transportation damage or installation of incorrectly shipped units.

3.1.2 Before Installation

Carefully read all instructions for the installation prior to installing product. Make sure each step or procedure is understood and any special considerations are taken into account before starting installation. Assemble all tools, hardware and supplies needed to complete the installation. Some items may need to be purchased locally. Make sure everything needed to install the product is on hand before starting.

3.1.3 Codes & Regulations

This product is designed and manufactured to comply with national codes. It is installer's responsibilities to install the product in accordance with such codes and/or any prevailing local codes/regulations. The manufacturer assumes no responsibilities for equipment installed in violation of any codes or regulations.

3.1.4 Replacement Parts

When reporting shortages or damages, or ordering repair parts, give the complete product No. and serial numbers as stamped on the product. Replacement parts for this product are available through your contractor or local distributor.

3.2 Important Safety Instructions

Recognize Safety Symbols, Words, and Labels

The following symbols and labels are used throughout this manual to indicate immediate or potential hazards. It is the owner's responsibility to read and comply with all safety information and instructions accompanying these symbols. Failure to heed safety information increases the risk of serious personal injury or death, property damage and/or product damage.

⚠ DANGER Immediate hazards which will result in property damage, product damage, severe personal injury or death.

⚠ WARNING Hazards or unsafe practice could result in property damage, product damage, severe personal injury or death.

⚠ WARNING Before serving or installing this equipment. The electrical power to this unit must be in the "off" position. Caution, more than one disconnect may exist. Failure to observe this warning may result in an electrical shock that can cause personal injury or death.

⚠ WARNING The United States environmental protection agency (“EPA”) has issued various regulations regarding the introduction and disposal of refrigerants introduced into this unit. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. These regulations may vary due to the passage of laws. A certified technician must perform the installation and service of this product. Should questions arise, contact your local EPA office.

⚠ WARNING Due to high system pressure and electrical shock in potential, installation and service work can be dangerous. Only trained and qualified personnel are permitted to install or service this equipment. Observe all warnings contained in this manual and labels/tags attached to the equipment.

⚠ WARNING This product is factory shipped for use with a 208-230/1/60 electrical power supply.

⚠ WARNING When the A-coil is installed with the furnace, the safety instructions accompanying the furnace should be followed.

⚠ WARNING The unit must have an uninterrupted, unbroken electric grounding to minimize the possibility of personal injury if an electric fault occurs. The electric grounding circuit may consist of an appropriate sized power cord which connected with the grounding piece located in the unit control box and also connecting to the building electric service panel. Other methods of grounding are permitted if performed in accordance with the “national electric code” (NEC) / “American national standards institute” (ANSI) / “national fire protection association” (NFPA) 70 and local/state codes. In Canada, electric grounding conforms to the Canadian electric code CSA c22.1. Failed to observe this warning can result in electrical shock that can cause personal injury.

3.3 Wiring Requirements and Fuse Capacity

Power Cord Size and Air Switch Capacity and Fuse Capacity

Model	Power Supply	MCA(A)	MOP(A)	Fuse Capacity (A)
GMV-N24AC/VA-T(U)	208/230V-1ph-60Hz	0.1	15	3.15
GMV-N36AC/VA-T(U)		0.1	15	3.15
GMV-N48AC/VA-T(U)		0.1	15	3.15
GMV-N60AC/VA-T(U)		0.1	15	3.15

NOTICE

- (1) Fuse is located on the main board.
- (2) Use copper wire only as unit's power cord. Operating temperature should be within its rated value.
- (3) If the power cord is more than 15m (49-1/4 ft.) long, please increase properly the sectional area of power cord to avoid overload, which may cause accident.
- (4) Above selection requirements: Power cord size is based on BV single-core wire (2~4pc) at 40 °C (104 °F) ambient temperature when laying across plastic pipe. Air switch is D type and used at 40 °C (104 °F). If actual installation condition varies, please lower the capacity appropriately according to the specifications of power cord and air switch provided by manufacturer.

4 Installation Instructions

NOTICE These A-coil type indoor units are limited to be installed for one room.

4.1 Dimension Data

Equip with an inspection hatch after lifting the unit. For the convenience of maintenance, the service port should be on one side of the electric box and below unit’s lower level.

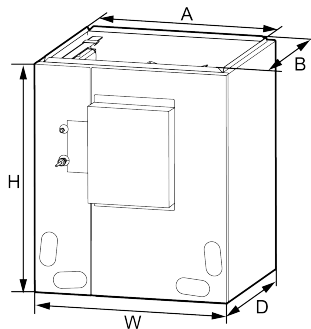


Fig.4.1.1

Below are dimensions of A, B, etc. for different models:

Unit: mm (inch)

Model	Dimension				
	W	D	H	A	B
GMV-N24AC/VA-T(U)	445(17-1/2)	540(21-1/4)	584(23)	403(15-7/8)	492(19-3/8)
GMV-N36AC/VA-T(U)	445(17-1/2)	540(21-1/4)	584(23)	403(15-7/8)	492(19-3/8)
GMV-N48AC/VA-T(U)	622(24-1/2)	540(21-1/4)	724(28-1/2)	581(22-7/8)	492(19-3/8)
GMV-N60AC/VA-T(U)	622(24-1/2)	540(21-1/4)	724(28-1/2)	581(22-7/8)	492(19-3/8)

4.2 Location

⚠ WARNING
(1) The unit must be enough to withstand the weight of the unit and fixed securely, otherwise the unit would topple or fall off.
(2) The mounting bracket shall remain structurally sound throughout its service life. Any degradation must be repaired immediately; failure to do so may cause equipment detachment, resulting in personal injury or property damage.
(3) Do not install where there is the danger of combustible gas leakage.
(4) Do not install the unit at a place with leakage of inflammable gas.
(5) Sealant must be applied at all penetration points where wiring, refrigerant lines, and condensate drain lines enter the cabinet.

⚠ WARNING This coil is designed for indoor installation only. Do not install it outdoors.

⚠ WARNING Not suitable for use with ammonia.

When installing the coil, take consideration to minimize the length of refrigerant tubing as much as possible. Do not install the air handler in a location either above or below the condenser that violates the instructions provided with the condenser. Service clearance is to take precedence. Allow a minimum of 635mm (25inch) in front of the unit for service clearance, as shown below.

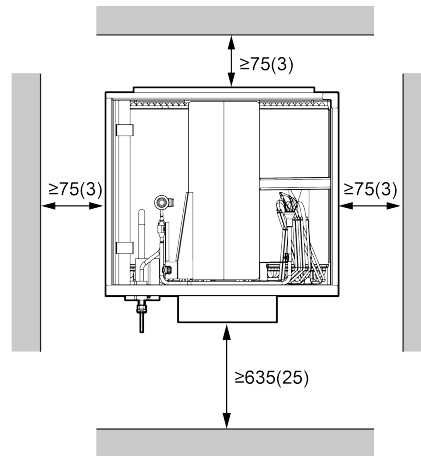


Fig.4.2.1

When installing in an area directly over a finished ceiling (such as an attic), an emergency drain pan is required directly under the unit. See local and state codes for requirements. When installing this unit in an area that may become wet, elevate the unit with a sturdy, non-porous material. In installations that may lead to physical damage (i.e. a garage) it is advised to install a protective barrier to prevent such damage. Incorrect installation of the indoor unit may result in inadequate drainage, potentially causing bacterial growth and associated health hazards. Inadequate drainage may also lead to corrosion of the unit. Vibration isolation, acoustic insulation, and noise control measures must be implemented during installation. In places with high noise requirements, sufficient noise reduction measures should be taken.

4.3 Piping Work

All cut ends are to be round, burr free, and cleaned. Failure to follow this practice increases the chances for refrigerant leakage.

Prior to installation, the internal piping must be free of contaminants and protected against dust ingress. Any contamination may compromise the unit's operational integrity.

When cutting or deburring pipes, do not allow cutting chips or other foreign matters to enter the pipes. If cutting chips or other foreign matters enter pipes, wipe them off the inside of the pipes.

Tighten all flare nuts to specification using a torque wrench. If tightened too much, the flare nut can break after an extended period and refrigerant can leak out.

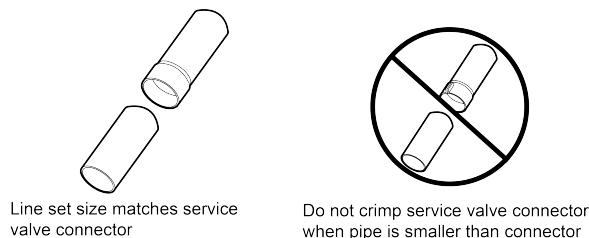


Fig.4.3.1

4.4 Condensate Removal

- (1) It is not allowed to connect the condensate drain pipe into waste pipe or other pipelines which are likely to produce corrosive or peculiar smell to prevent the smell from entering indoors or corrupt the unit.
- (2) It is not allowed to connect the condensate drain pipe into rain pipe to prevent rain water from pouring in and cause property loss or personal injury.
- (3) Condensate drain pipe should be connected into special drain system for air conditioner.
- (4) Improper drainage may damage the house and property.
- (5) Setting the unit at an angle opposite to the drain piping might cause leaks.
- (6) The unit shall be sloped at least 1/8 in./ft (10 mm/m) from the horizontal toward the drain outlet such that water drains freely from the pan whether the fan is ON or OFF.
- (7) The drain pan has primary and secondary drain connection. Condensate removal is performed by attaching a 3/4" PVC pipe to the evaporator coil pan and terminated in accordance with local or state Plumbing/HVAC codes. The installation must include a trap that is located closely to the evaporator coil. Do not over-tighten the drain connection in order to prevent possible damage to the evaporator drain pan. See the following figure for details of a typical condensate line trap.

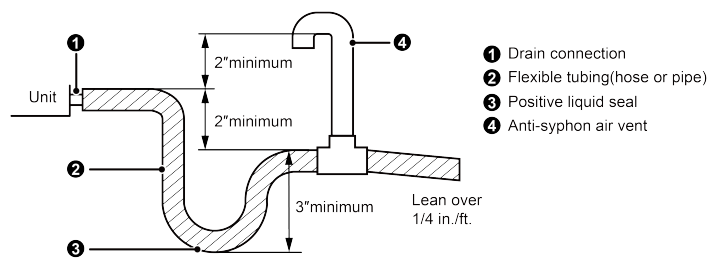


Fig.4.4.1

4.5 Ductwork

This coil is designed for a complete supply and return ductwork system.

⚠ WARNING

Do not operate the unit without all ductwork completed.

Do not operate this product without all ductwork attached.

Inadequate ductwork that restricts airflow can result in improper performance and compressor or heater failure. Ductwork is to be constructed in a manner that limits restrictions and maintains suitable air velocity. Ductwork is to be sealed to the unit in a manner that will prevent leakage.

Return ductwork: Do not terminate the return ductwork in an area that can introduce toxic or objectionable fumes/odors into the ductwork. The return ductwork is to be introduced into the coil.

Return Air Filters: Each installation must include a return air filter. This filtering may be performed at the coil or externally such as a return air filter grille.

Do not install UV lights inside the unit or ductwork. UV lights can accelerate the aging of plastic and insulating materials, potentially causing water leaker, electrical short circuits, or fire hazards.

4.6 Unit Installation

⚠ WARNING Risk of explosion or fire.

Ensure the gas furnace complies with ANSI-Z21.47/CSA2.3 standards and is certified by NRTL third-party laboratory (such as AGA, CSA, UL, or ETL/Intertek). The gas furnace equipment paired with the unit must comply with certification requirements.

Decommissioned or improperly installed furnaces must not be used.

A-coil must not be installed on any oil-fired furnace or drum-type furnace.

Improper installation may cause inadequate drainage, resulting in condensate leakage into furnace.

⚠ WARNING Can cause injury or death.

⚠ WARNING A-coil can only be installed on this side of the pipe supplying air.

Install the blower and condensing unit according to the installation instructions provided with the unit.

Position the cased coil on top of the blower cabinet and secure it using field-provided screws.

Connect the return air outlet of the A-coil to the air outlet of the furnace, or connect the return air outlet of the furnace to the air outlet of the A-coil, and secure it with the screws provided on site.

Air duct fixed with screws must be installed at the air inlet or the air outlet of A-coil type unit. After installation, please make sure that human's hands are unable to touch inner parts of the unit. Installation and maintenance of the unit must be carried out by professionals.

⚠ WARNING

When adjusting the secondary drain pan, the heat exchanger must be removed as a whole. During this process, the secondary drain pan may fall off from the main drip pan. The falling of the drip pan may cause personal injury.

NOTE:

A stable connection is required between the coil and the blower to prevent dumping. Based upon the actual conditions, if coil is installed as Fig.4.6.1, the coil should be concealed in a specific room or space and make sure the coil is not accessible to the general public. The height between the coil and ground is above 19 in.

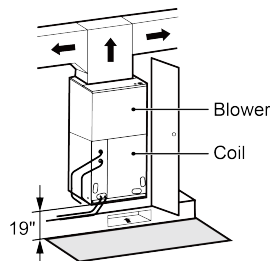


Fig.4.6.1

Measures should be reserved for easy disconnection and cleaning of the main drain pipe.

After installation, test the condensate pan and drain pipe. Pour sufficient water into the drain pan to fill the water seal and drain pipe. Check that the drain pan is completely emptied, there is no leakage at the drain pipe joints, and water is discharged from the end of the main drain pipe.

Make sure the unit is horizontal or slightly inclined towards the main drain so that the water in the drain pan can be completely drained. The unit shall be sloped at least 1/8 in./ft (10 mm/m) from the horizontal toward the drain outlet such that water drains freely from the pan. The following figure is for reference.

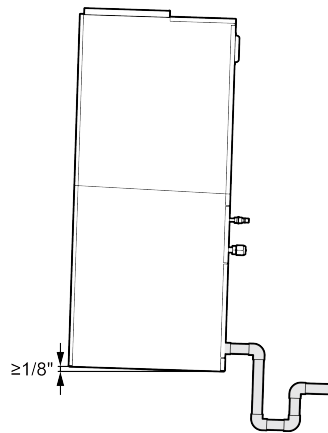


Fig.4.6.2

When the coil matches blower, the side which is nearby from coil is NOT allowed to install electric heater kit. Recommended configuring is as shown below.

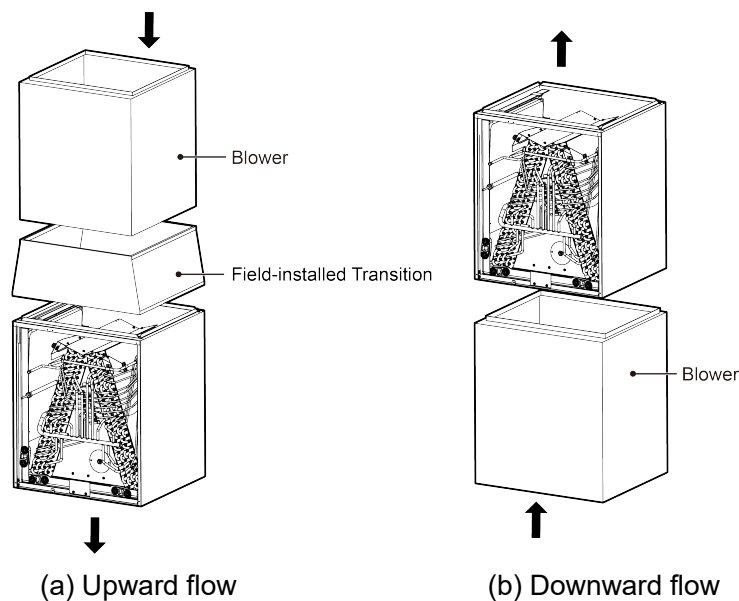


Fig.4.6.3

If the air inlet of blower is different with the air outlet of coil in size, it may be necessary to install a field-installed transition between the blower and the coil to proper airflow distribution (as shown in figure Fig.4.6.3 (a)).

Coil should be pitched slightly toward the drain connection. It is recommended to add silicone caulk between drain pans to prevent water seepage.

In order to avoid condensate water leakage, it is recommended that the unit install with an external drain pan and check the drain of the unit regularly.

NOTICE The factory default Electric box installation method of this product is fixed and cannot be adjusted. When the user adjusts the Electric box installation method, the following two operations should be performed, otherwise the unit may be damaged.

- ① When adjusting the installation position of the Electric box, the tapped hole shall be equipped with a wire-passing rubber ring. The internal wiring of the adjusted unit shall not touch the sharp edge of the sheet metal to avoid short circuit, ignition and other abnormalities caused by the sharp edge secant.
- ② When adjusting the installation position of the Electric box, the lowest point of the internal wiring of the group shall not exceed the water receiving tray to avoid the problem of water diversion to the outside of the unit.

4.7 Sealing Ducts

⚠ WARNING

Use fiberglass sealing strips, caulking, or equivalent sealing method between the plenum and the air handler cabinet to ensure a tight seal. Return air must not be drawn from a room where the air handler or any gas-fueled appliance (i.e., water heater), or carbon monoxide-producing device (i.e., wood fireplace) is installed.

Ensure that the duct is secured and all joints are properly sealed to the coil cabinet flanges.

All indoor cabinets must be taped after installation to seal against any air leaks. System performance and efficiency will be reduced if air leakage exists.

There must be sealed with sponge or other thermal insulation material where around the cut-off valves to prevent air leakage or water seepage.

It is necessary to paste sponge seal around the air outlet to prevent leakage.

4.8 Leak Testing, Vacuuming and Charging

Refer to the outdoor unit instruction for leak testing, vacuuming and charging. Always leak check entire system before charging.

5 Wiring Work

⚠ WARNING

Before obtaining access to terminals, all supply circuits must be disconnected.

NOTICE

- (1) Units must be earthed securely, or it may cause electric shock.
- (2) Please carefully read the wiring diagram before carry out the wiring work, incorrect wiring could cause malfunction or even damage the unit.
- (3) The capacity of power supply must be sufficient and the sectional area of wires in the room should be above 2.5mm².
- (4) The wiring should be in accordance with related regulations in order to ensure the units reliable running.
- (5) Install circuit breaker for branch circuit according to related regulations and electrical standards.
- (6) All wiring must use pressure terminal or single wire. Multi-twisted wire that connects directly to the wiring board may cause fire hazard.
- (7) Keep cable away from refrigerant pipings, compressor and fan motor.
- (8) Do not change the internal wiring of the air conditioner; otherwise, our company will not bear relevant legal responsibilities for the related damages.
- (9) If the unit is installed in places with strong electromagnetic interference, it's recommended to use twin-twisted shield wire. During wire connection, please pay attention that the metal shield layer of the twin-twisted wire must be grounded (outer case) in order to prevent the unit from electromagnetic interference.

NOTICE

(10) The communication wires should be separated from power cord and connection wire between indoor unit and outdoor unit.
(11) The electric wire can't be expanded by connecting another electric wire. When the length of the electric wire is not enough, please contact our designated dealer or local service center for a special electric wire.
(12) When wiring, position the wires so that the electrical components box lid can be securely fastened.
(13) Be sure to attach the sealing material or putty (field supplied) to hole of wiring to prevent the infiltration of water as well as any insects and other small creatures from outside. Otherwise a short-circuit may occur inside the electrical components box.
(14) Use round crimp-style terminals for connecting wires to the power supply terminal block.
(15) Never connect power supply wiring to the terminal block for remote controller wiring. A mistake of the sort could damage the entire system.
(16) A single switch can be used to supply power to units on the same system. However, branch switches and branch ground fault circuit interrupters must be selected carefully.
(17) If the connecting wire is incorrectly connected to the terminal block, the unit does not operate normally.

5.1 Connection of Wire and Patch Board Terminal

(1) The connection of wire (as shown in Fig.5.1.1)

- 1) Strip about 25mm (1inch) insulation of the wire end by stripping and cutting tool.
- 2) Remove the wiring screws on the terminal board.
- 3) Shape the tail of wire into ring by needle nose plier, and keep the gauge of ring in accordance with screw.
- 4) Use the screwdriver for tightening the terminal.

(2) The connection of stranded wire (as shown in Fig.5.1.2)

- 1) Strip about 10mm (3/8inch) insulation of the end of stranded wire by stripping and cutting tool.
- 2) Loosen the wiring screws on terminal board.
- 3) Insert the wire into the ring tongue terminal and tighten by crimping tool.
- 4) Use the screwdriver for tightening the terminal.

Unit: mm (inch)

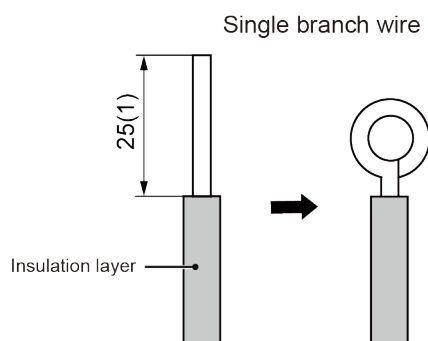


Fig.5.1.1

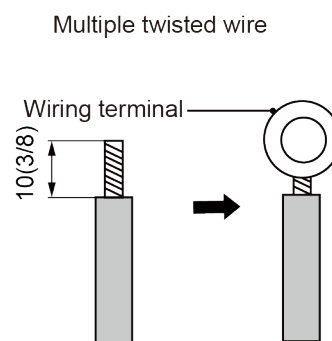
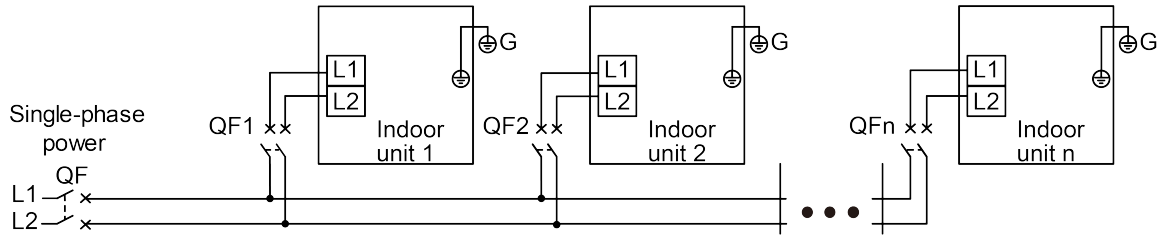


Fig.5.1.2

5.2 Power Cord Connection**NOTICE**

- ① Every unit should be equipped with a circuit breaker for short-circuit and overload protection.
- ② During operation, all indoor units connected to the same outdoor unit system must be

kept energized status. Otherwise, the unit can't operate normally.



NOTICE The maximum connection quantity “n” for indoor unit is decided by the capacity of outdoor unit. Please refer to the unit capacity of unit for details.

Fig.5.2.1

- (1) Detach the electric box lid.
- (2) Let the power cord laid out through cabling through, conduit tube or cable channel.
- (3) Connect wires according to Fig. 5.2.1.
- (4) The wire diameter of power cord can't be less than 18AWG.

5.3 Connection of Communication Wire between Indoor Unit and Outdoor Unit (or indoor unit)

- (1) Detach the electric box lid.
- (2) Let the communication cables laid out through cabling through, conduit tube or cable channel.
- (3) Connect the communication wire to terminal D1 and D2 of indoor 2-bit wiring board, as shown in Fig.5.3.1.

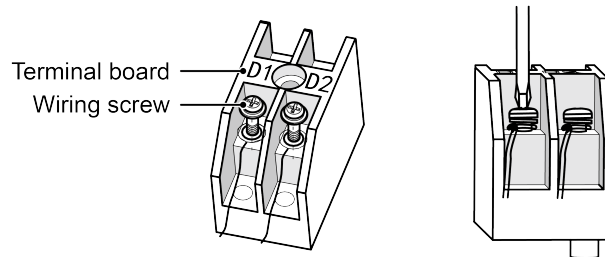
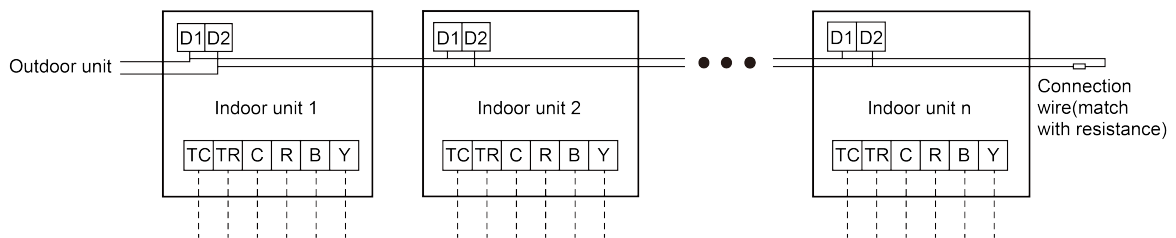


Fig.5.3.1



NOTICE Indoor unit quantity “n” is according to the outdoor unit capacity.

Fig.5.3.2

- (4) For more reliable communication, make sure connect the terminal resistor to the most downstream IDU of the communication bus (terminal D1 and D2), as shown in Fig.5.3.2, terminal resistor is provided with each ODU.

5.4 Connection between the Third Party Thermostat and 24V Adapter

The 24V adapter is connected with the third-party thermostat through the B, Y and other signal interfaces of 24V AC to realize the functions of controlling the unit and feedback the running state.

5.4.1 Interface Function Instruction

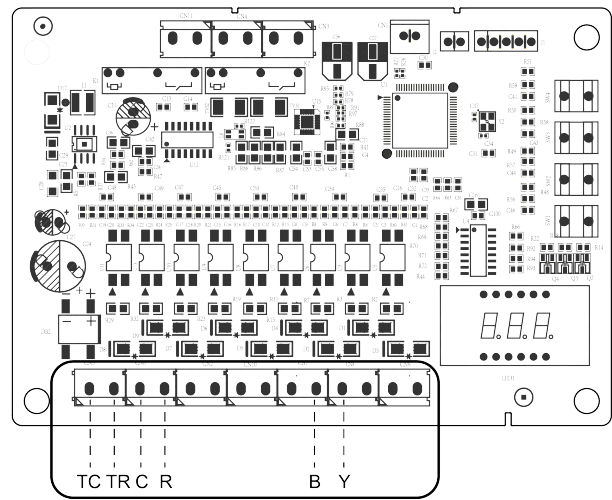


Fig.5.4.1

The interface meaning of 24V Adaptor is as below:

Table 5.4.1 Interface Meaning of 24V Adaptor

Interface	Instruction
TR	Supply power for adapter (24VAC)
TC	Supply power for adapter (Common)
R	Supply power for thermostat (24VAC)
C	Supply power for thermostat (Common)
Y/B	Y ON and B OFF for cooling Y ON and B ON for heating

NOTICE Third-party 24V power input must meet Class2.

5.4.2 Function Instruction

The corresponding operation modes for the input signals of different interfaces on the main board is:

Table 5.4.2 Corresponding Operation Mode for Each Input Signal

Y	B	Mode
×	—	OFF
√	√	Heating
√	×	Cooling

NOTICE “√” indicates ON; “×” indicates OFF; “-” indicates ON or OFF.

5.5 Description of Field Wiring Hole of Electrical Box

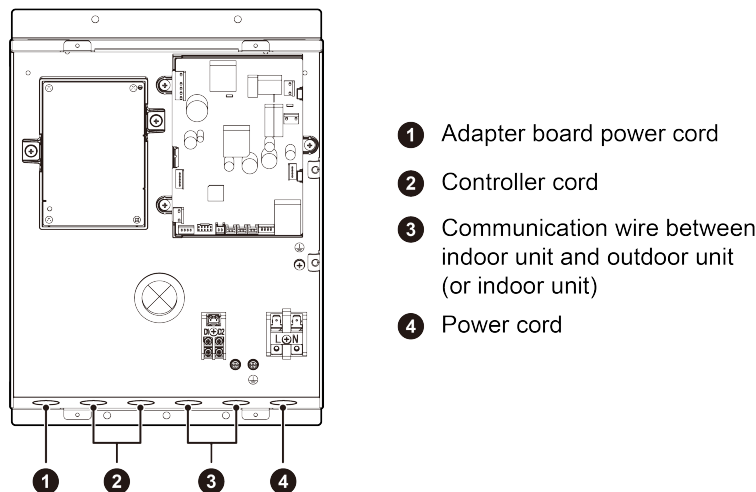


Fig.5.5.1

6 Temperature Protection and Function Settings

6.1 High Temperature Protection

Under cooling mode, the inlet air temperature of the unit can't exceed 45°C(113°F) , otherwise the system will operate abnormally.

Under any status, the inlet air temperature of the unit can't exceed 60°C(140°F) , otherwise it may damage the unit.

If the inlet air temperature is too high, the unit will shut down and cannot be started until the inlet air temperature drops to the normal range.

6.2 Unit Function Operations

⚠ CAUTION

- ① System function settings and queries must be performed after the entire system is commissioned.
- ② System function settings and queries can be performed regardless of whether the entire system is running or not.

6.2.1 Function Buttons

There are four function buttons on the 24V Adaptor main board of the indoor unit, as shown below:



Table 6.2.1 Names and Functions of the Buttons

Code	Function
BACK	Returns to the previous operation.
DOWN	Selects the lower item.
UP	Selects the upper item.
ENTER	Enter the selection.

6.2.2 Function Operations

Before setting every function, perform the following steps to select the function you want to set. Functions description is shown in Table 6.2.2.

Premise steps for function setting:

Step1: Short press the "ENTER" key to enter the parameter setting page, and the digital tube displays "P00".

Step2: Press the "UP" or "DOWN" key to select the parameter code, press the "ENTER" key to switch to the parameter value setting, the digital tube flashes to display the parameter value, press the "UP" or "DOWN" key to adjust the parameter value, press the "ENTER" key to complete the setting.

Step3: Press the "BACK" key to return to the previous layer until the parameter setting is exited.

NOTICE When entering the parameter setting state, if there is no operation within 20s, it will exit the parameter setting state.

Table 6.2.2 Functions Description

Function Code	Function Name	Description
P03	Delayed off time setting	00: 0 minute 01: 2 minutes 02: 3 minutes 03: 5 minutes Initial default is 00. The unit will keep running for a while when the third-party thermostat reaches to the temperature point.
P05	Limit temperature of inlet air during cooling	The initial default temperature is 45°C(113°F), the temperature adjustable range is 40°C~ 50°C(104°F~122°F).
P06	Limit temperature of inlet air at any time	The initial default temperature is 60°C(140°F); the temperature range is 60°C~ 80°C(140°F~176°F).
P10	Master indoor unit setting	00: Do not change settings 01: Enable Initial default is 00. When it is set to 00, the current master-slave status will not be changed; when it is set to 01, the current indoor unit will be set as the master indoor unit.

7 Routine Maintenance

NOTICE
(1) If abnormal things (for example, awful smell) occur, please stop the unit immediately and disconnect power. Then contact Gree's authorized service center. If the unit continues to run in abnormal situations, it may get damaged and cause electric shock or fire hazard.
(2) Do not repair the air conditioner by yourself. Improper maintenance will cause electric shock or fire hazard. Please contact Gree's authorized service center and send for professional service staff to repair.
(3) Do turn off the unit and cut off the main power supply when cleaning the air conditioner to avoid electric shock or injury.
(4) Stand at solid table when cleaning the unit.
(5) Do not clean the unit with hot water whose temperature is higher than 45°C to prevent fade or deformation.
(6) Do not dry the filters by fire, or it may catch fire or become deformed.
(7) Clean the filter with a wet cloth dipped in neutral detergent.
(8) Please contact our designated dealer or local service center if there is abnormal situation.

7.1 Maintenance before the Seasonal Use

- (1) Check if the air inlet and air outlet of indoor and outdoor unit are blocked.
- (2) Check if securely grounded.

- (3) Check if all the power cord and communication cable are securely connected.
- (4) Check if any error code displayed after energized.

7.2 Maintenance after the Seasonal Use

- (1) Set the unit in fan mode for half a day in a sunny day to dry the inner part of unit.
- (2) When the unit won't be used for a long time, please cut off power supply for energy saving.

8 Table of Error Codes for Indoor Unit

Error Code	Content	Error Code	Content	Error Code	Content
L0	Indoor Unit Error	LA	Indoor Units Incompatibility Error	d9	Jumper Cap Error
L1	Indoor Fan Protection	LH	Low Air Quality Warning	dA	Indoor Unit Network Address Error
L2	High Temperature Protection	LC	ODU-IDU Incompatibility Error	dH	Wired Controller PCB Error
L3	Water Full Protection	d1	Indoor Unit PCB Error	dC	Capacity DIP Switch Setting Error.
L4	Wired Controller Power Supply Error	d3	Ambient Temperature Sensor Error	dL	Outlet Air Temperature Sensor Error
L5	Freeze protection	d4	Inlet Pipe Temperature Sensor Error	dE	Indoor Unit CO ₂ Sensor Error
L7	No Master Indoor Unit Error	d6	Outlet Pipe Temperature Sensor Error	C0	Communication Error
L8	Power Insufficiency Protection	d7	Humidity Sensor Error	AJ	Filter Cleaning Reminder
L9	Quantity Of Group Control Indoor Units Setting Error	d8	Water Temperature Error	o1	Low bus bar voltage of indoor unit
o2	High bus bar voltage of indoor unit	o3	IPM Module Protection of Indoor Unit	o4	Failure Startup of Indoor Unit
o5	Overcurrent Protection of Indoor Unit	o6	Current Detection Circuit Malfunction of Indoor Unit	o7	Desynchronizing Protection of Indoor Unit
o8	Communication Malfunction of Indoor Unit's Drive	o9	Communication Malfunction of Main Mater of Indoor Unit	oA	High temperature of Indoor Unit's Module
ob	Malfunction of Temperature Sensor of Indoor Unit's Module	oC	Charging Circuit Malfunction of Indoor Unit	o0	Other Drive Malfunction
db	Special Code: Field Debugging Code			—	

9 Troubleshooting

The air conditioner is not expected to be serviced by users. Incorrect repair may cause electric shock or fire, so please contact an authorized service center for professional service. The following checks prior to contact may save your time and money.

Phenomenon	Troubleshooting
The unit can't start	① Power supply is not connected. ② Circuit breaker tripping caused by leakage of electricity. ③ Input voltage is too low. ④ Defect of main PC-board. ⑤ The inlet air temperature is too high.
The unit stops after running for a while.	① The inlet or outlet of ODU or IDU are blocked by obstacle. ② The inlet air temperature is too high.
Poor cooling effect	① The filter is dirty. ② Too heavy heat load of room (e.g. too many people). ③ Door or windows is open. ④ Inlet and outlet of IDU are blocked. ⑤ Setting temperature is too high. ⑥ Refrigerant is insufficient (e.g. refrigerant leakage).
Poor heating effect	① The filter is dirty. ② Door or window is open. ③ Setting temperature is too low. ④ Refrigerant is insufficient (e.g. refrigerant leakage).
The unit blows cool air under the heating mode.	① When the unit is started up just now, the temperature of the heat exchanger is low. At this time, the fan operates and there is cool air blowing out. ② During defrosting process, the system will switch to the cooling mode and last for 5~15 minutes. If the fan keeps operation, the unit will blow cool air.

NOTICE If air conditioner still fails to work normally after checking and handling as described above, please stop using it immediately and contact local service center for assistance.

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