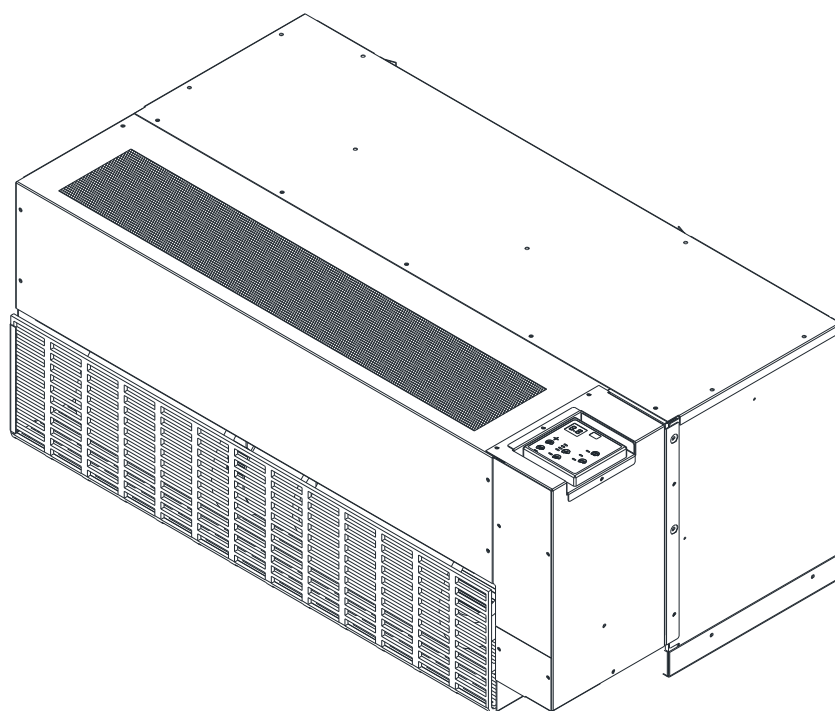


GENUINE COMFORT

PACKAGED TERMINAL AIR CONDITIONER DUAL MOTOR COOLING WITH ELECTRIC HEAT

INSTALLATION INSTRUCTIONS & OWNER'S MANUAL



MODELS: GCAA-E09KU235-3
GCAA-E12KU235-3
GCAA-E15KU235-3

ATTENTION INSTALLATION PROFESSIONAL

As a professional installer you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this instruction manual. Pay special attention to all safety warnings.

Often during installation or repair it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember it is your responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense, a matter of thinking before acting. Most dealers have a list of specific good safety practices, follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

CONTENTS

1. Read this first	1
To the installer	2
General precautions	2
Safety precautions for R32 refrigerant	4
2. Check list	10
3. General Product Information	11
Product description	11
Standard controls and Components	12
Controls and Feature	12
Mode coding	13
4. Preparing for the installation	14
Electrical Supply	14
Electrical short hazard	14
Remove the old chassis	14
Check existing wall sleeve	14
Check existing outdoor louver	14
5. Installation instruction	15
Chassis installation	15
Remove of the filter	16
Front panel installation	17
6. Final Inspection and start-up	18
Final check list	18
Start-up	18
Built thermostat	18
7. Maintenance and Troubleshooting	22
Monthly inspection and maintenance	22
Seasonal start-up and maintenance	23
Troubleshooting	24
8. Performance Data	29

TO THE INSTALLER

Retain this manual for future reference.

Before leaving the premises, review this manual to be sure the unit has been installed correctly and run the unit for one complete cycle to make sure it functions properly.

To obtain technical service or warranty assistance during or after the installation of this unit, contact your local representative. For further assistance please **call +1-866-233-4022**

When calling for assistance, please have the following information ready:

Model number:

Serial number:

Date of installation:

NOTICE

Due to ongoing product development, product designs and specifications may change without notice. Pls contact the factory for more information.

WARNING

Electric shock hazard

Turn off electric power before service or installation.

Don't use this unit if it has damaged wiring, is not working properly, or has been damaged or dropped.

Read these instructions carefully and completely before attempting installation. Unit should be installed by qualified service personnel **ONLY**

Failure to do so can result in property damage, personal injury and/or death.

DANGER

WIRE SIZE: Use **ONLY** wiring size recommended for single outlet branch circuit.

FUSE/CIRCUIT BREAKER: Use **ONLY** type and size fuse or HACR circuit breaker indicated on Receptacles and Fuse Type(see Table 01). Proper current protection to the unit is the responsibility of the owner.

GROUNDING: Unit **MUST** be grounded from branch circuit through service cord to unit, or through separate ground wire provided on permanently connected units. Be sure that branch circuit or general purpose outlet is grounded.

Do not modify the GENUINE COMFORT replacement PTAC POWER CORD

The power cord should be checked before every use. Do not use the product if the cord fail the test.

A damaged power cord must be replaced with a new cord from the manufacturer and not repaired.

The use of extension cords is prohibited.

RECEPTACLE: The field supplied outlet must match plug on service cord and be within reach of service cord. Refer to TABLE 1 for proper receptacle and fuse type

Failure to follow these instructions can result in a fire, explosion or electrical shock, causing property damage, personal injury or death

AS A SAFETY PRECAUTION

	WARNING	THIS SYMBOL THAT THIS APPLIANCE USED A FLAMMABLE REFRIGERANT. IF THE REFRIGERANT IS LEAKED AND EXPOSED TO AN EXTERNAL IGNITION SOURCE, THERE IS A RISK OF FIRE.
	CAUTION	THIS SYMBOL THAT THE OPERATION MANUAL SHOULD BE READ CAREFULLY.
	CAUTION	THIS SYMBOL THAT A SERVICE PERSONNEL SHOULD BE HANDLING THIS EQUIPMENT WITH REFERENCE TO THE INSTALLATION MANUAL.
	CAUTION	THIS SYMBOL THAT INFORMATION IS AVAILABLE SUCH AS THE OPERATING MANUAL OR INSTALLATION MANUAL.

! WARNING

The manufacturer will not be responsible for any injury or property, Damage arising from improper service or service procedures. If you install or perform service on this unit, you assume responsibility for any personal injury or property damage which may result, many jurisdictions require a license to install or service heating and air conditioning equipment.

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.
The appliance shall be installed in accordance with national wiring regulations.

! WARNING

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).

Do not pierce or burn.

Be aware that refrigerants may not contain an odour.

If the SUPPLY CORD is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid hazard.

- a warning to keep ventilation openings clear of obstruction;
- a notice that servicing shall be performed only as recommended by the manufacturer.

Keep any required ventilation openings clear of obstruction

Servicing shall be performed only as recommended by the manufacturer

SAFETY PRECAUTIONS FOR R32 REFRIGERANT

1. Information on servicing

1.1 Checks to the area

Prior to beginning work on systems containing FLAMMABLE REFRIGERANTS, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the REFRIGERATING SYSTEM, 1.2 to 1.6 shall be completed prior to conducting work on the system.

1.2 Work procedure

Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

1.3 General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

1.4 Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

1.5 Presence of fire extinguisher

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

1.6 No ignition sources

No person carrying out work in relation to a REFRIGERATING SYSTEM which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. 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.

1.7 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.

1.8 Checks to the refrigerating 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 using FLAMMABLE REFRIGERANTS:

- the actual REFRIGERANT CHARGE 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;

SAFETY PRECAUTIONS FOR R32 REFRIGERANT

- marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- refrigerating 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.

1.9 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.

2. Repairs to sealed components

2.1 Sealed electrical components shall be replaced.

3. Intrinsically safe components must be replaced.

4. 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.

5. Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of FLAMMABLE REFRIGERANTS, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed. Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

NOTE Examples of leak detection fluids are

- bubble method,
- fluorescent method agents.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Removal of refrigerant shall be according to Clause 6.

SAFETY PRECAUTIONS FOR R32 REFRIGERANT

6. Removal and evacuation

When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration.

The following procedure shall be adhered to:

- safely remove refrigerant following local and national regulations;
- evacuate;
- purge the circuit with inert gas (optional for A2L);
- evacuate (optional for A2L);
- continuously flush or purge with inert gas when using flame to open circuit; and
- open the circuit.

The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation shall be available. of shut off valves) in a part of the system remote from the leak.

7. Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- 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 in an appropriate position according to the instructions.
- Ensure that the REFRIGERATING 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 REFRIGERATING 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.

8. Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. 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 recovered refrigerant. It is essential that electrical power is available before the task is commenced.

- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically.

SAFETY PRECAUTIONS FOR R32 REFRIGERANT

- c) 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.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with instructions.
- h) Do not overfill cylinders (no more than 80 % volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) 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.
- k) Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.

9. Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing FLAMMABLE REFRIGERANTS, ensure that there are labels on the equipment stating the equipment contains FLAMMABLE REFRIGERANT.

10. Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

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 is 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 the flammable refrigerant. If in doubt, the manufacturer should be consulted. In addition, 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.

The recovered refrigerant shall be processed according to local legislation 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 compressor body shall not be heated by an open flame or other ignition sources to accelerate this process. When oil is drained from a system, it shall be carried out safely.

SAFETY PRECAUTIONS FOR R32 REFRIGERANT

11. WARNING FOR USING R32 REFRIGERANT

- Appliance shall be installed, operated and stored in a room with a floor area larger than 4 m².
 - Appliance shall not be installed in an unventilated space, if that space is smaller than 4 m².
 - Compliance with national gas regulations shall be observed.
 - The appliance shall be stored so as to prevent mechanical damage from occurring.
 - Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorises their competence to handle refrigerants safely in accordance with an industry recognised assessment specification.
 - Servicing shall only be performed as recommended by the equipment manufacturer.
- Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
- Please follow the instruction carefully to handle, install, clear, service the air conditioner to avoid any damage or hazard. Flammable Refrigerant R32 is used within air conditioner. When maintaining or disposing the air conditioner, the refrigerant (R32) shall be recovered properly, shall not discharge to air directly.
 - No any open fire or device like switch which may generate spark/arcing shall be around air conditioner to avoid causing ignition of the flammable refrigerant used.
 - Please follow the instruction carefully to store or maintain the air conditioner to prevent mechanical damage from occurring.
 - Flammable refrigerant -R32 is used in air conditioner. Please follow the instruction carefully to avoid any hazard.

12. Installation & Assembly Instructions

- Before installing the appliance, you must read the manual carefully to get the safety information and notes.
- Unit refrigerant charge amount: refer to unit name plate marking.
- A leak test must be done after the installation is completed.
- It is a must to do the safety inspection before maintaining or repairing an air conditioner using combustible refrigerant in order to ensure that the fire risk is reduced to minimum.
- It is necessary to operate the machine under a controlled procedure in order to ensure that any risk arising from the combustible gas or vapor during the operation is reduced to minimum.

13. Please note that:

1. Handle gently.
2. At least two people needed to lift the chassis and prohibit lift the copper pipes.
3. Only trained or qualified people for installation.
4. The installation site should be in a well-ventilated condition.
5. The sites for installing and maintaining an air conditioner using Refrigerant R32 should be free from open fire or welding, smoking, drying oven or any other heat source higher than 548°C which easily produces open fire.
6. When installing an air conditioner, it is necessary to take appropriate anti-static measures such as wear anti-static clothing and/or gloves.

SAFETY PRECAUTIONS FOR R32 REFRIGERANT

7. It is necessary to choose the site convenient for installation or maintenance wherein the air inlets and outlets of the indoor and outdoor units should be not surrounded by obstacles or close to any heat source or combustible and/or explosive environment.

8. If the indoor unit suffers refrigerant leak during the installation, all the personnel should go out till the refrigerant leaks completely for 15 minutes. If the product is damaged, it is a must to carry such damaged product back to the maintenance station and it is prohibited to weld the refrigerant pipe or conduct other operations on the user's site.

9. It is necessary to choose the place where the inlet and outlet air of the indoor unit is even.

10. It is necessary to avoid the places where there are other electrical products, power switch plugs and sockets, kitchen cabinet, bed, sofa and other valuables right under the lines on two sides of the indoor unit, and also prevent mechanical damage from occurring.

Table 01: Receptacles and Fuse Types

Table 1	250V			265/277V
AMPS	15	20*	30	20
RECEPTACLE				
TIME-DELAY TYPE FUSE (or HACR circuit breaker)	15	20	30	20
HACR — Heating, Air Conditioning, Refrigeration *May be used for 15 Amp applications if fused for 15 Amp NOTE: 265/277- volt units require use of accessory subbase DAX99SB to meet NEC and local codes.				

CAUTION

Sheet metal parts, self-tapping screws, clips and such items inherently have sharp edges, and it is necessary that the installer exercise caution.

This equipment is to be installed only by an experienced installation company which employs trained personnel.

PTAC chassis are heavy. To avoid injury, use assistance when lifting.

CHECK LIST

When the equipment is received, all items should be carefully checked refer to typical configuration(see Fig.01). All units should be carefully inspected for damage when received. If any damage is noticed, the carrier should make the proper notation on the delivery receipt acknowledging the damage.

Pls call: **+1-866-233-4022** for customs service

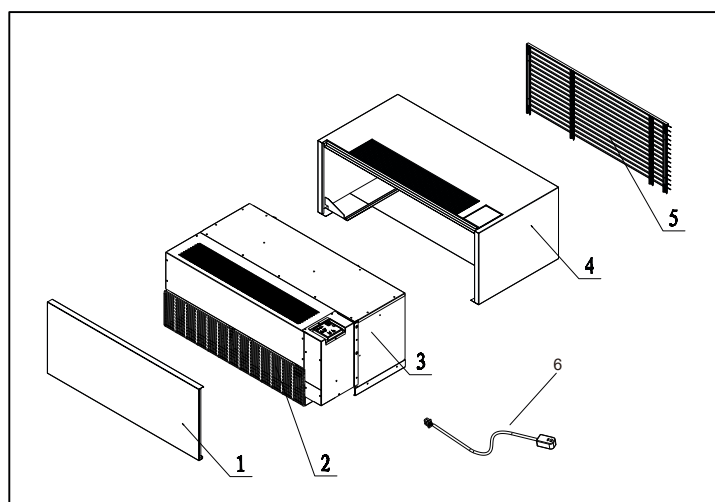


Fig.01: Typical Configuration

1. Front Panel

Verify the front panel in perfect shape, no bending or damaged.

2. Filter

Ensure the filter in good shape.

3.Chassis

The unit nameplate should be checked to make sure the voltage agrees with the power supply available.

Make sure correct chassis has been received(as well as any option).

Verify your equipment by using “Model coding” on page 13.

Verify that indoor blower wheels and outdoor fan blades are secured to their motor shafts and rotate freely.

Verify the compressor and tubing in proper position and perfect status.

4.Sleeve

The sleeve should be checked the outline dimension match the existing hole.

The opening of the existing hole should be 45" width, and 18 5/8" height.

5.Louver

The Louver should be checked the dimension , and make sure match the sleeve.

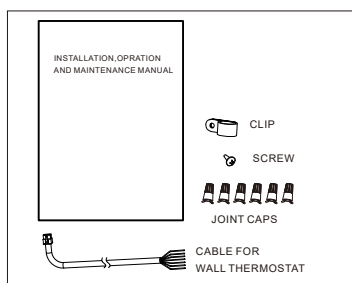
6.Power cord

The SUPPLY CORD and LCDI shall be obtained from the manufacturer or its service agent.

The specific model of SUPPLY CORD and LCDI shall be consistent with the following table.

Power Supply Cord with LCDI	TOWER MFG CORP (E242788)	30383	30364	
		JLL301, VW-1 or FT1 or FT2, 105 °C, 300 V, Length:1.5-3.0m, 14 AWG × 3C, terminate with LCDI rated 20 A, 250 V, installed as integral part. For 3176W heater.	JLL301, VW-1 or FT1 or FT2, 105 °C, 300 V, Length:1.5-3.0m, 14 AWG × 3C, terminate with LCDI rated 30 A, 250 V, installed as integral part. For 4276W heater.	
	SUZHOU ELE MFG CO LTD (E250451)	L22630	L22620	L22615
		JLL301, VW-1 or FT1 or FT2, 105 °C, 300 V, Length:1.5-3.0m, 14 AWG × 3C, terminate with LCDI rated 30 A, 240 V, installed as integral part. For 4276W heater.	JLL301, VW-1 or FT1 or FT2, 105 °C, 300 V, Length:1.5-3.0m, 14 AWG × 3C, terminate with LCDI rated 20 A, 240 V, installed as integral part. For 3176W heater.	JLL301, VW-1 or FT1 or FT2, 105 °C, 300 V, Length:1.5-3.0m, 14 AWG × 3C, terminate with LCDI rated 15 A, 240 V, installed as integral part. For 2300W heater.
		cURus	cURus	cURus

ACCESSORY:



This replacement PTAC, only item1, 2 are provided

GENERAL PRODUCT INFORMATION

Product description

GENUINE COMFORT replacement Package Terminal Air conditioner are cooling chassis with electric heat.

GENUINE COMFORT

The **GENUINE COMFORT** PTAC unit:

1. Use R32 refrigerant. This refrigerant is not affected by a phase out schedule. R32 is environment friendly.
2. Include high-efficiency rotary compressors protected by a 5-year warranty.
3. Offer three speed for evaporator fan motor, and one speed for condenser fan motor.
4. Dual motor system.
5. Condensate removal system with dual drain hose, re-evaporation to improve efficiency.
6. Dual centrifugal fan make the unit operate quietly.
7. Universal electric heat
 - 2300w heat can be obtained when 15A power cord is used
 - 3176w heat can be obtained when 20A power cord is used
 - 4276w heat can be obtained when 30A power cord is used
8. PTAC units are available in nominal sizes of 9,000BTU, 12,000BTU or 15,000BTU
9. The maximum outdoor ambient temperature for the operation of the PTAC units is 109.4°F.

Standard control and components

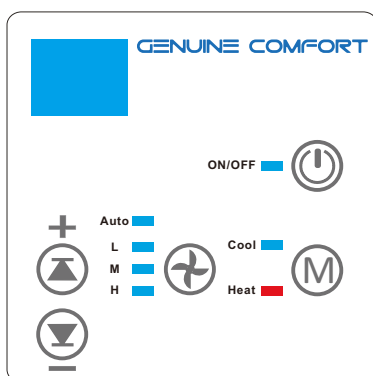
Construction

1. 18 gauge galvanized steel and powder-coated for base pan and bulkhead, 20gauge galvanized steel and powder-coat for construction.
2. Dual centrifugal evaporator fan with galvanized steel.
3. Aluminium fan blade for condenser.
4. 20gauge galvanized steel and powder coated for drain pan.
5. Evaporator fan deck is easily slid in and out.
6. Motors are thermally-protected .
7. Air stream surfaced are insulated with 5/16 fiberglass or 3/16 XPE.
8. Washable filter.

Condensate remove system

1. Dual drain hose lead the condensate to outside base pan.
2. Slinger ring of aluminium fan blade throw the condensate to the condenser coil, where it evaporates, improving system performance.

Control



Built-in thermostat

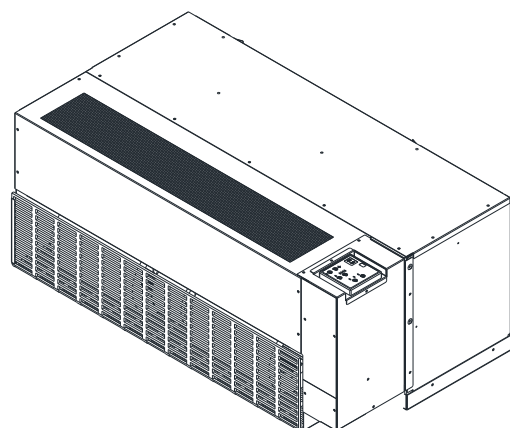
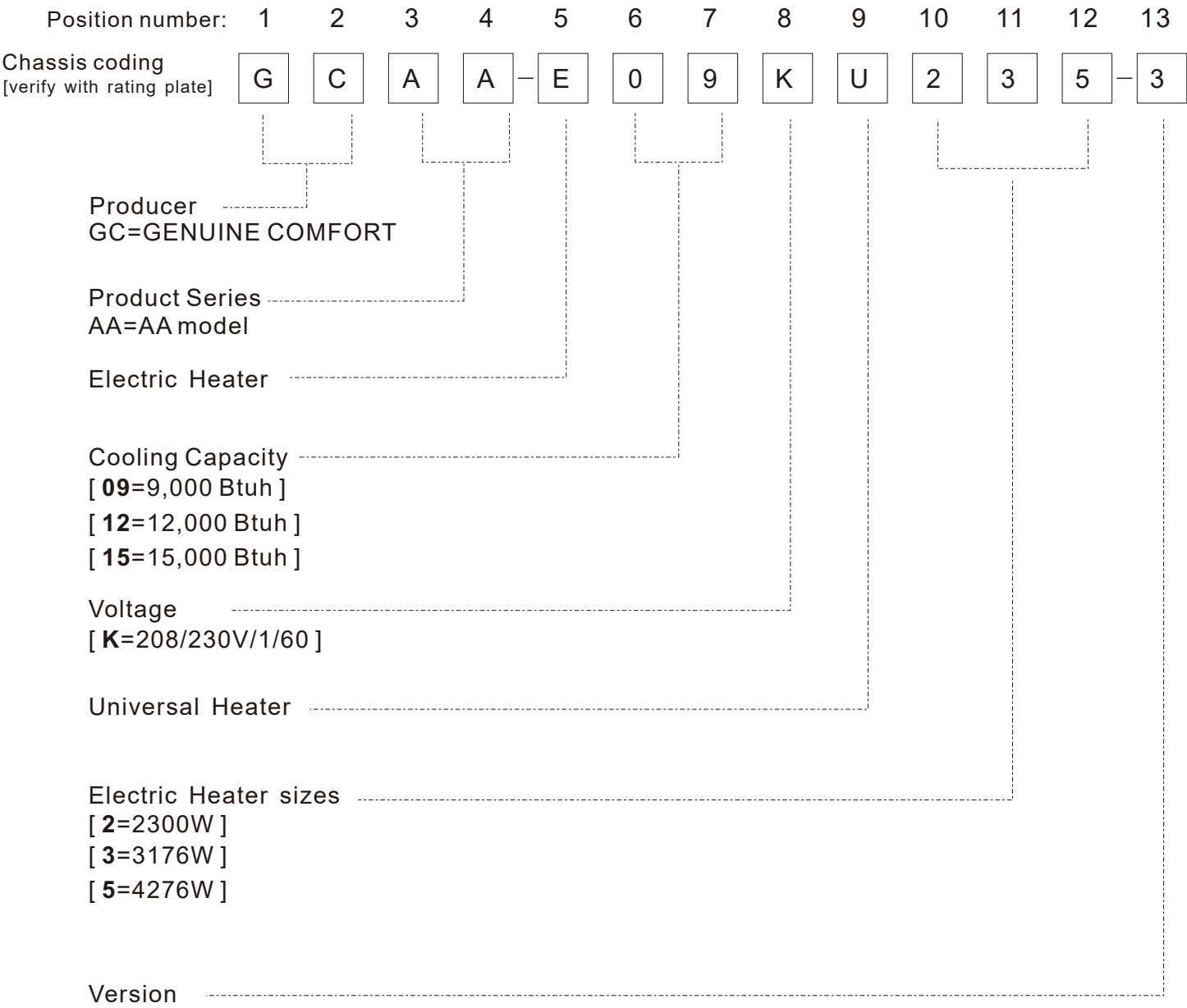


Fig.02: Control

GCAA MODEL CODING

Model Coding



PREPARING FOR THE INSTALLATION

WARNING

Moving parts can cause personal injury. Avoid contact with moving parts when testing or servicing the unit.

Electrical supply

Each unit must have a separate branch circuit protected by a fuse or breaker. Refer to the unit rating plate for the proper wire and breaker or fuse size.

Use of extension cords is prohibited.

DO NOT connect the **GENUINE COMFORT** unit to a circuit with an incorrectly-sized overcurrent-protection device.

Electrical short hazard

Before opening the existing unit:

Open the power supply disconnect switch. Secure it in an open position during installation. Attach a sign stating, "DO NOT TURN ON"

On a plug and receptacle connection, unplug the existing unit at the wall outlet.

DO NOT plug in the new unit until installation is complete and the start-up check list has been completed.

Failure to comply with the above could result in severe personal injury, death or substantial property damage.

Remove the old chassis

1. Disconnect power or unplug cord before proceeding.
2. Remove the front panel to expose the old chassis.
3. Loosen any tie-down bolts or screws and remove the old chassis.

Check existing wall sleeve

GENUINE COMFORT replacement PTAC are to be used with metal wall sleeve :

- a. Clean the wall sleeve of any dirt.
- b. Repair any damage and rust.
- c. Ensure proper drainage of condensate or rainwater to exterior of building.
- d. Check the back of sleeve is pitched to the outside by ½ inch max.
- e. Check the sleeve is level left to right.
- f. Make sure the wall sleeve secured in the wall.

Check existing outdoor louver

Check whether the type of the outdoor louver match the baffle and insulation on the chassis, adjust if it doesn't match.

Remove any obstructions

INSTALLATION INSTRUCTION

CHASSIS INSTALLATION

- 1.Check the seal foam on the rear of chassis, make sure to avoid the ventilation short circuit.
- 2.Slide the chassis into the sleeve until the front in the same level as sleeve.
- 3.Secure the chassis —Tighten any tie down bolts or screw as necessary.

POWER CORD CONNECTION

- 1.Remove junction box cover by moving three screws. See Fig.03
- 2.Connect accessory power cord to unit. See Fig.03
 - Pay attention—Different electric power require different power cord.
 - See TABLE 02-POWER CORD CONNECTION CHART
- 3.Use wire clamp to attach power cord and cable for built-in thermostat to base pan, See Fig.03.
- 4.Reinstall junction box cover.

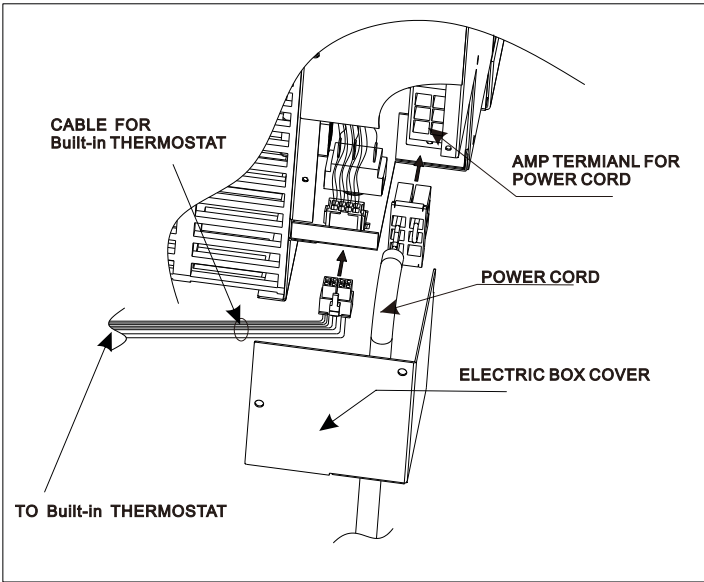


Fig.03: CABLE CONNECTION

TABLE 2-POWER CONNECTION CHART

UNIT MODEL		CODE OF POWER SUPPLY KIT		
		30A	20A	15A
				
		208/230V		
GCAA	2300W	×	×	✓
	3176W	×	✓	×
	4276W	✓	×	×

Built-in THERMOSTAT INSTALLATION

- Connect the built-in thermostat cable with the chassis as Fig.03
- Use wire clamp to attach power cord and cable for built-in thermostat to base pan, see Fig.04
- Install the built-in thermostat as per the detail separate manual for built-in thermostat installation,
- Connect cable from chassis to the existing wires in the wall as Fig.05
- Ensure to wrap and make protection at the joint points.

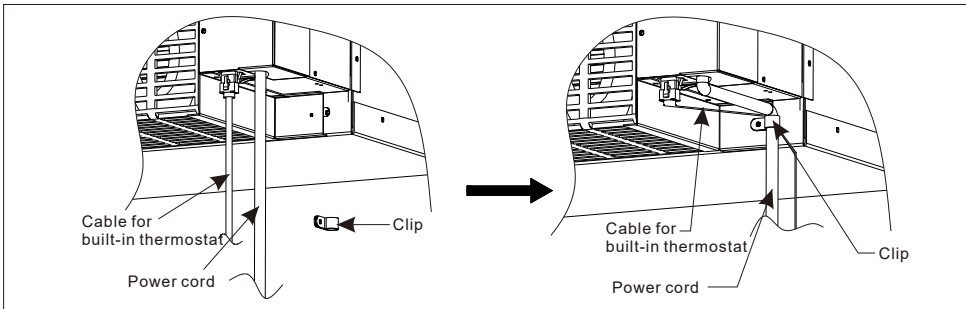


Fig.04 CLAMP POWER CORD AND CABLE

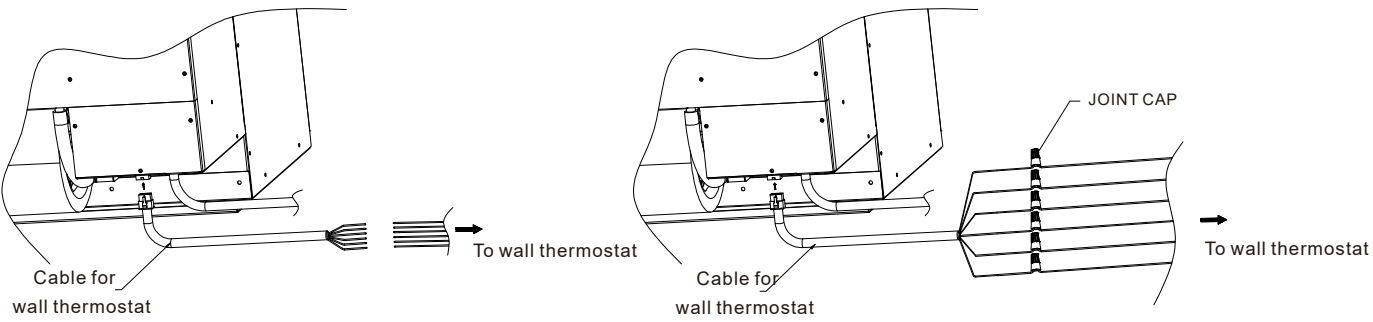
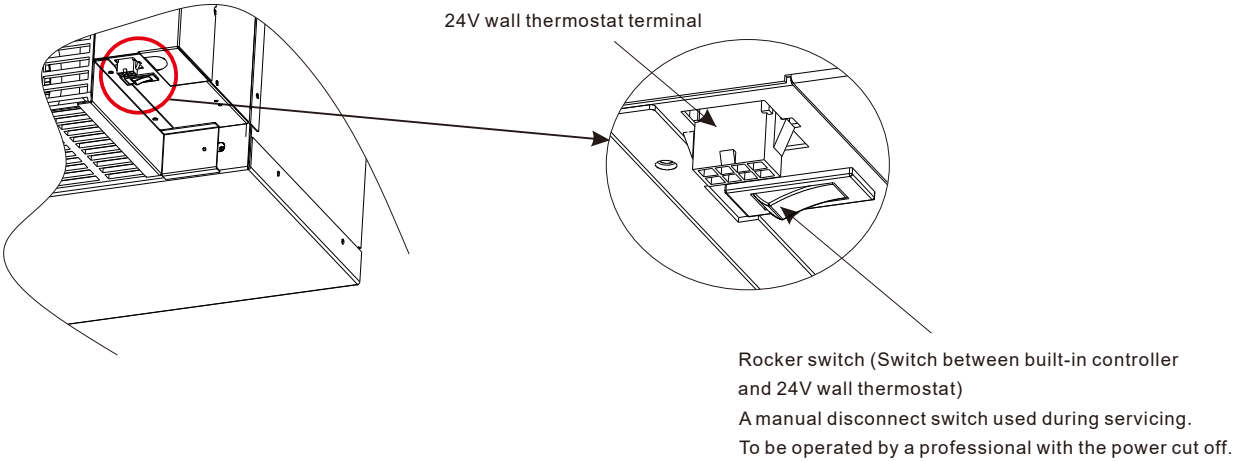


Fig.05 CABLE CONNECTION FOR WALL THERMOSTAT



REMOVAL OF THE FILTER

Loosen the butterfly nut bolt, pull open the baffle, and remove the filter as Fig.06

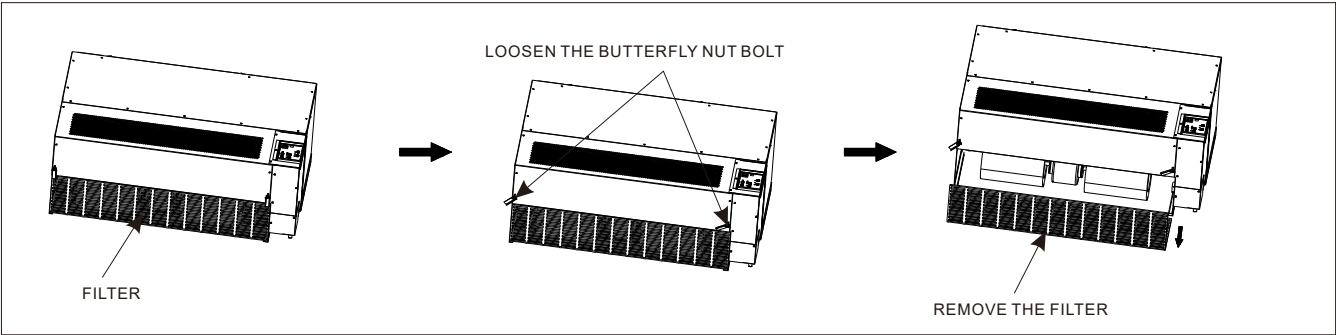


Fig.06 REMOVAL OF THE FILTER

FRONT PANEL INSTALLATION

Insert the panel to the orbit of the chassis, as Fig. 07 and Fig. 08

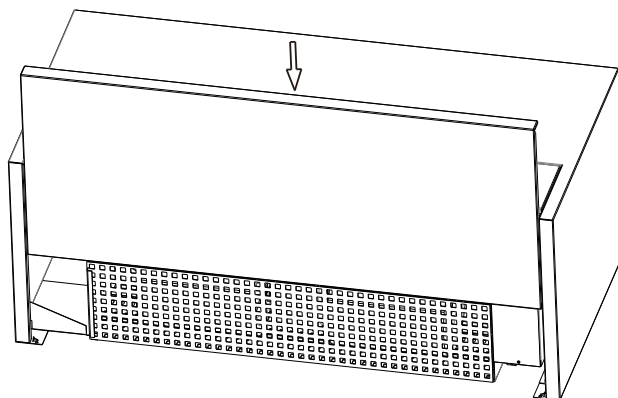


Fig. 07

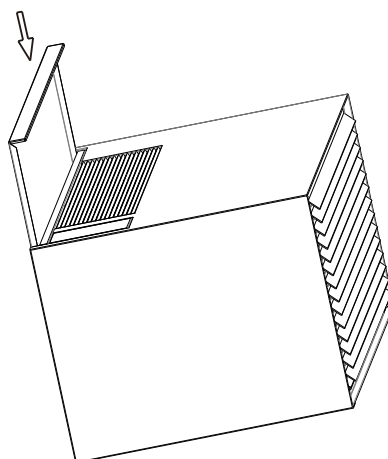


Fig. 08

Ensure the panel screwed in proper location, see Fig. 09

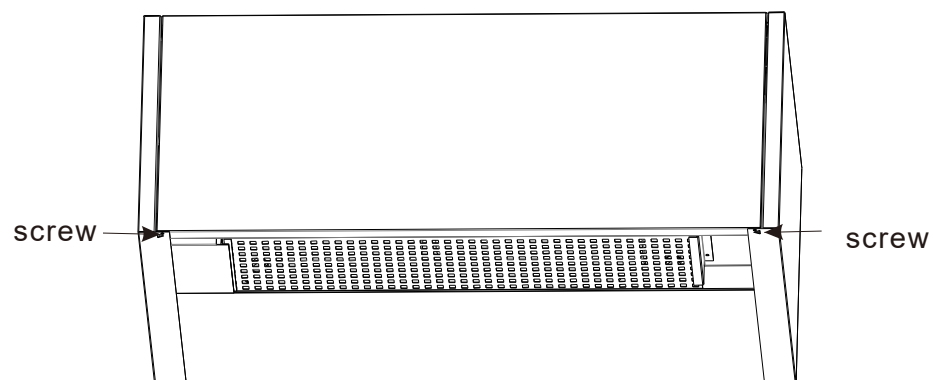


Fig. 09

FINAL INSPECTION AND START-UP

Check list

- . Ensure the chassis is secured with the sleeve.
- . Unit is installed in compliance with all codes.
- . Circuit breakers and wire sizes are correct.
- . Ensure the electrical supply matches the electrical requirements of the unit, and that the unit is properly grounded.
- . Check whether the electric heat match the power cord.
- . Filter clean and in place.
- . All panels in place.
- . Make sure the chassis is level.
- . Verify that nothing will interfere with the room discharge air or the return air of the units.
Examples:
 - . Check for curtains or drapes that obstruct the air flow.
 - . Check for plus carpeting that can obstruct the return air.
 - . Items like these can cause serious damage to the chassis.
 - . Ensure work area clean and free of debris.

Start-up

- . Plug in the chassis.
- . Turn on the chassis, and operate all functions:

BUILT-IN THERMOSTAT

1. Press the ON/OFF button to switch ON or OFF the air conditioner, it will run in memory mode.
2. Press the MODE button to select cooling or heating mode.
3. Press the FAN button to select fan speed.
4. Press the UP or DOWN button to select the desired temperature.

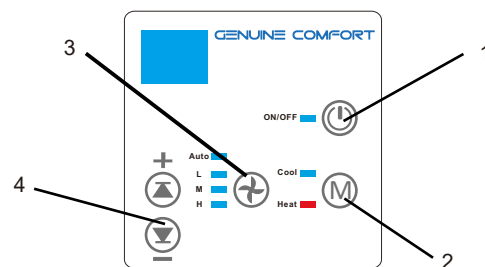


Fig.10: Built-in thermostat

COMBINATION KEY FUNCTION FOR BUILT-IN DISPLAY

1. Automatic shutdown mode

- Press and hold **"FAN"** for five seconds, it will first display the set hours, and then use the keys "" and "" to select the time for automatic shutdown.
- A0: Automatic shutdown mode not activated.
- A1-8: Automatic shutdown time to be selected within the range of 1-8 hours. After selecting the time, press **"FAN"** again to confirm. When the time is up, the system will be shut down (only once).

2. Temperature display switch between °F / °C

Press "", "" and **"FAN"** for 5 minutes for this function.

3. LED light control

Press "" and "" for 5 minutes, the brightness of all LED lights can be dimmed (note: the brightness will return to normal levels when the units are re-started.)

4. Continuous Fan / Fan cycle

Press **"FAN"** and "" for 5 minutes to switch between Fan cycle and continuous fan. (Fan cycle set to default)

Fan Cycle: Display will show "" for 5 minutes and the fan will be

- ON: If the compressor on
- OFF: If the compressor off

Continuous fan: Display will show "", and the fan will be running continuously.

Note: In fan mode, even if the fan cycle is selected, the fan will remain on. The fan speed will be on according to user settings.

THREE TERMINAL DIP SWITCH FUNCTION

- SW1: The switch is to select the PTAC / water mode
 - ON: Water source heat pump
 - OFF: PTAC
- SW2: The switch is to select the operating temperature range
 - ON: Operating temperature range is 64-88°F (Set to default)
 - OFF: Operating temperature range is 58-88°F
- SW3: to select 2 or 3 fan speeds
 - ON for 2 fan speeds (High/Low)
 - OFF for 3 fan speeds (High/Medium/Low)

ANTI FREEZING PROTECTION

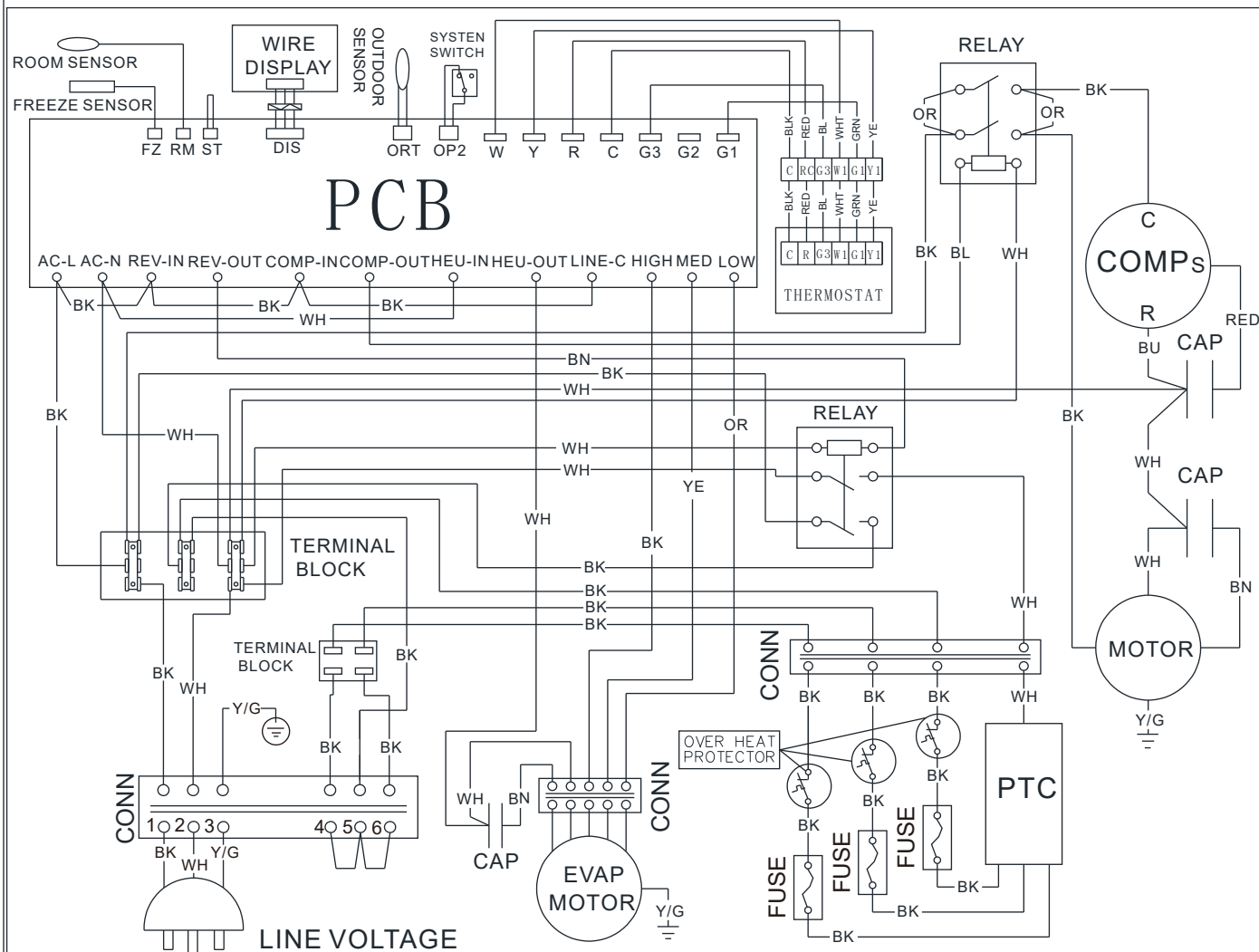
- A. In cooling mode, this function will be activated when the compressor is on and the indoor coil temperature (Tindoor coil) is detected to be $\leq 30^{\circ}\text{F}$ for 2 consecutive minutes. The compressor and outdoor fan stop, while the indoor fan remains in its original state and enters antifreeze protection.
- B. If Tindoor coil $\geq 55^{\circ}\text{F}$ For the system shuts down, the system will resume normal operation.
- When the Tindoor coil is detected to be $\geq 55^{\circ}\text{F}$ and the 3-minute protection state has expired, the compressor and outdoor fan will resume operation and exit the anti freeze protection state.
- C. If the anti freeze protection is activated three times continuously within 20 minutes, the anti freeze function will be paused.
- And compressor operation will be revised. 10min running, then stop for 5 min. After 30 minutes, the freeze sensor protection will be restored, and the cycle will continue.
- Note: When the indoor coil sensor is damaged, cancel this function.

SELF DIAGNOSTIC FUNCTION:

The system provides a self diagnostic function, which displays error codes when an error occurs

Error Code	Cause	Problem caused	During malfunction	Solutions
E1	Activate freeze protection	Indoor evaporator coil frozen	Compressor stopped, fan running at original wind speed	Tindoor coil $\geq 55^{\circ}\text{F}$ or turn off the unit.
E6	Cooling fault protection activated	Compressor is running for more than 30 minutes in cooling or dehumidifying mode. Tindoor coil $\geq 81^{\circ}\text{F}$	Alarm	Turn off the unit. or change the mode or Tindoor coil lower than 79°F
E8	Room Temperature /anti-freezing/Steam pipe sensor failure	Room temperature sensor disconnected or short circuited	Compressor and fan motor stop	Replace the room temperature sensor
		Anti-freezing sensor disconnected or short circuited.	Anti-freezing protection failure	Replace the anti-freezing sensor
		Steam pipe sensor disconnected or short circuited	Steam pipe protection failed	Replace the steam pipe sensor
EC	Communication error between the main PCB and touchpad	Main PCB damaged	Alarm	Change the main PCB
		Components damaged on the touchpad	Alarm	Change the touchpad

WIRING DIAGRAM



- ※W/DIGITAL CONTROL, WALL THERMOSTAT IS OPTIONAL.
- ※W/ROOM SIDE AMBIENT PROTECTION.
- ※COOLING WITH HYDRONIC HEAT INTERFACE .
- ※W/ FREEZE SENSOR.
- ※W/CONTINUOUS FAN OR CYCLE FAN.
- ※EXTERNAL COMPRESSOR OVERLOAD PROTECTION. AIO-PTC-000

MAINTENANCE AND TROUBLESHOOTING

MONTHLY INSPECTION AND MAINTENANCE

DANGER

Electrical shock hazard-Disconnect power to the GENUINE COMFORT replacement PTAC before servicing or accessing the control compartment. Failure to do so could result in severe personal injury or death.

WARNING

It is illegal to discharge refrigerant into the atmosphere. Use proper reclaiming methods and equipment when servicing a **GENUINE COMFORT** replacement PTAC.

For optimum performance and reliability of your GENUINE COMFORT replacement PTAC, GENUINE COMFORT recommends performing the following inspections and maintenance on a monthly basis. Units that are installed in harsh or dirty environments will require more frequent inspections and maintenance.

- ☐ Clean or replace the indoor air filter.
- ☐ Vacuum return air grille surface.
- ☐ Inspect & clean the chassis interior for rodent or insect infestation.
- ☐ Clean & flush condensate drain pan and chassis base pan.
- ☐ If applicable, ensure the condensate drain is functioning properly.
- ☐ Inspect refrigeration tubing, especially braze joints, for signs of refrigerant leaks (*oil residue*). Repair if necessary.
- ☐ Inspect indoor and outdoor coils. Ensure dirt or debris have not collected on the fins. Clean if necessary. Be careful not to damage coil fins when cleaning. Use a fin comb to straighten any bent fins.
- ☐ Examine control box. Ensure all wire connections are secure.
- ☐ Ensure indoor blower wheels and outdoor fan blades are secured to their motor shafts.
- ☐ Ensure dirt or debris have not collected on the indoor blower wheels and outdoor fan blades. Use a vacuum and soft brush to clean if necessary.
- ☐ Clean the exterior of the cabinet as desired with a mild soap or household cleaner.
- ☐ **5 KW heat models only**-in the event the limit switch opens and de-energizes the electric heat, the limit switch will need to be manually reset.

WARNING

Clean or replace the return air filter as needed. Allowing dust to collect on the filter will cause the unit to lose efficiency and eventually malfunction. Check the filter at least once a month. Some environments may require more frequent replacement, depending on particulate in the air stream.

NOTICE

If a new air filter is needed for your **GENUINE COMFORT** replacement PTAC, consult supplier for availability and/or proper sizing.

SEASONAL START-UP AND MAINTENANCE

At the beginning of the cooling and heating seasons, a complete mechanical check should be performed and maintenance/ inspections performed as described below.

Disconnect power to unit and remove necessary access panels.

1. Performing the inspections and maintenance defined in “Monthly start-up and maintenance.”
2. Do a visual check of the equipment. Look for obvious changes in the unit such as damaged coils or evidence of extended wear on any moving parts.
3. Check for unusual odors, oil leaks, or stains on or around the coil and refrigerant lines. The presence of oil here may indicate a potentially serious problem such as a refrigerant leak.
4. Make sure the base pan is clean.
5. Inspect all electrical connections. Look for frayed wires and poor connections. Terminal ends that are loose will eventually fail, causing a loss of performance or worse.
6. Check fan motors and blower assemblies. Some units may require a drop of light oil to motors and/or bearing assemblies (*look for oil cups*). Ensure setscrews and motor mounting hardware are tight.
7. Brush and/or vacuum the centrifugal fan blades and blower cage assemblies, as they must be clean to operate efficiently.
8. Inspect both indoor and outdoor coils. Use a fin comb to straighten out any damaged fins. These coils must be clean for proper operation.

WARNING : Do not use a solvent-based cleaner to clean coils, as some solvents will produce a noxious odor when the unit is in operation.

9. Inspect and clean the drain pan and drain line(s). The use of an anti-fungicide tablet to keep the condensate system free from bacterial contaminants is recommended.
10. Check the pitch of the unit. Over time the building and equipment may settle, causing a shift in the direction of the condensate flows. Ideally the unit should pitch a minimum of 5 (at least 1/2") to the outside to allow for proper drainage.
11. Check drainage holes along rear flange of the base pan to ensure they are free of debris.
12. Check to ensure the seal around the unit is not broken or damaged.

NOTICE : Air leaks may make the conditioned area uncomfortably drafty or produce noises. Visually inspect the foam gasket between the wall and the unit, especially taking note of the separation between the air inlet for the condenser and the condenser coil discharge. These two areas must be sealed off from each other. If you experience poor cooling operation or erratic operation, check for air recirculation at the condenser coil.

14. Replace the access panels and reconnect the electrical power.
15. Test the unit operation.

TROUBLESHOOTING GUIDE

SYMPTOM	CAUSE	CHECK/CORRECTION
Thermostat does not Properly Control Room Temperature, Runs Continuously, or Causes Abnormal Cycles in Heating or Cooling Mode	Sleeve seals worn or missing allowing outdoor air to be passed over the thermostat sensing bulb.	Inspect and replace if necessary.
	Defective thermostat.	Test and replace if necessary.
	Thermostat bulb/sensor not properly located.	Ensure bulb is clipped to evaporator coil at original factory specified location.
	Thermostat/sensor temperature limiting option not set up properly.	Set up the temperature limiting option according to the unit Installation Instructions.
	Low voltage.	Check voltage with unit running and ensure it is within nameplate limits.
Compressor Short Cycles	Restricted condenser air.	Check for dirt or other condenser coil restriction. Clean as necessary.
	Recycling of condenser air.	Check for inadequate discharge air installation clearances. Coil not sealed against grille, Unit may not be completely pushed into sleeve.
	Condenser fan motor operating intermittently, rotating slowly, or not at all.	Check to see if fan or shaft is being rubbed or experiencing external friction, Check free rotation of the motor shaft. Check voltage to the motor. Check motor capacitor. Check for miswiring. Motor may be seizing internally. Motor have open windings, or internal overload is defective - if so, replace motor.
	Thermostat bulb/sensor not properly located.	Ensure bulb is clipped to evaporator coil at original factory specified location.
	Faulty or incorrect compressor overload.	Check for correct overload model number and replace if incorrect. Otherwise, If running amps seem normal, replace overload.
Recycling of indoor air.	Indoor coil freezing.	See “Evaporator Coil Frosts” .
		Ensure that curtains or other obstructions are not short circulating air between the outlet grille and return air intake.

TROUBLESHOOTING GUIDE

SYMPTOM	CAUSE	CHECK/CORRECTION
Compressor Short Cycles (continued)	Compressor running too slow and drawing high amps.	Compressor may be miswired. Check capacitor. Compressor may be seizing - if so, replace compressor.
	Fuse or circuit breaker tripped.	Replace or reset as necessary.
Compressor Will Not Run	Defective switch.	Test and replace if necessary.
	Defective thermostat./sensor	Test and replace if necessary.
	Indoor room temperature below thermostat set point.	Lower thermostat setting if comfort not yet achieved.
	Indoor room temperature below 65°F	Cooling will not operate if the room temperature is below 65°F.
	Outdoor temperature too cold.	Compressor is not intended to operate at cold outdoor temperatures.
	Broken, shorted, loose or miswired wiring.	Inspect and correct.
	Defective compressor capacitor.	Test and replace if necessary.
	Defective compressor overload.	Test and replace if necessary.
	Low voltage or no voltage to compressor.	Check voltage and ensure it is within nameplate limits.
	Compressor windings open.	Disconnect overload from compressor terminals. Check for winding resistance across all winding pairs C-S, C-R, S-R and check each terminal to the compressor shell for ground faults. Replace compressor if any windings are open-circuited or short circuited to the shell.

TROUBLESHOOTING GUIDE

 GENUINE COMFORT

SYMPTOM	CAUSE	CHECK/CORRECTION
Compressor Will Not Run (continued)	Seized compressor.	If all of the above check out OK and if pressures are equalized, and compressor draws high amps and will not start, compressor is seized and needs to be replaced.
	Shorted or incorrect wiring.	Check all connections. Also check for shorts within devices such as motors, switches, heater etc..
Unit Trips Fuse / Circuit Breaker	Shorted capacitor.	Test and replace if necessary.
	Compressor short cycling.	See "Compressor Short Cycles" .
	Power was interrupted to the unit.	Wait 3 minutes before restarting.
	Fuse or breaker setting too low.	Check nameplate fuse size.
	Broken, shorted, loose, or miswired wiring.	Inspect and correct.
	Low voltage or no voltage.	Check voltage with unit running and ensure it is within nameplate limits.
	Seized or slow running compressor.	See above.
	Dirty air filter.	Clean or replace.
Evaporator Coil Frosts	Dirty evaporator coil.	Clean as necessary.
	Blower motor operating intermittently, rotating slowly, or not at all.	Check to see if blower wheel or shaft is being rubbed or experiencing external friction. Check free rotation of the motor shaft. Check voltage to the motor. Check motor capacitor. Check for miswiring. Motor may be seizing. Motor may have open windings, or internal overload is defective - if so, replace motor.

TROUBLESHOOTING GUIDE

SYMPTOM	CAUSE	CHECK/CORRECTION
Evaporator Coil Frosts (continued)	Low refrigerant charge.	Look for telltale signs of low charge. For example, check the frosting pattern starting from a defrosted condition. If the whole evaporator face frosts uniformly at the same time, it indicates that the unit has insufficient indoor airflow. If the frost work its way up the face of the evaporator during operation over time, it indicates low charge. Low running amps, low or no subcooling, and excessive superheat are other signs of undercharge. Find and fix the leak and recharge R22 to the nameplate charge.
	Faulty thermostat.	Test and replace if necessary.
	Defective compressor.	Check and replace if necessary.
Unit Rattles or is Noisy	Refrigerant line hitting surroundings.	Bend tube slightly to obtain clearance.
	Loose fan, blower, or motor mounts .	Check and tighten if necessary.
	Rubbing of fan or blower on housing.	Ascertain cause and correct. Check during operation.
	Faulty thermostat.	Test and replace if necessary.
No Heating	Fuse or circuit breaker tripped.	Replace or reset as necessary.
	Cord not plugged in.	Plug in.
	Defective switch.	Test and replace if necessary.
	Defective heater.	Inspect and replace if necessary.
	One-time thermal fuse is blown.	Check thermal fuse for open circuit and replace if necessary.
	Automatic reset high limit control will not reset.	Check high limit for open circuit and replace if necessary.

TROUBLESHOOTING GUIDE


GENUINE COMFORT

SYMPTOM	CAUSE	CHECK/CORRECTION
No Heating (continued)	Broken, shorted, loose, or miswired wiring.	Inspect and correct.
	Indoor room temperature above thermostat set point.	Raise thermostat setting if comfort not yet achieved.
Heater Output Intermittent or Insufficient	Faulty thermostat.	Test and replace if necessary.
	Automatic reset high limit control calibration defective.	Replace high limit.
	Dirty air filter.	Clean or replace.
	Dirty evaporator coil.	Clean as necessary.
	Blower motor operating intermittently, rotating slowly, or not at all.	Check to see if blower wheel or shaft is being rubbed or experiencing external friction. Check free rotation of the motor shaft. Check voltage to the motor. Check motor capacitor. Check for miswiring. Motor may be seizing internally or internal overload is defective - if so, replace motor.
Water Drips from Unit	Sleeve not properly mounted.	Check sleeve for the required 3/8" pitch down from indoor to outdoor side and level side-to-side. Readjust as required.
	Condensate drain plugged.	Clean condensate drain spout passing through the dividing wall.
	Evaporator drain pan cracked or improperly mounted.	Inspect, realign or replace plastic drain pan as required.
	Unusually high moisture content in the indoor and/or outdoor air.	Under certain ambient conditions excessive condensate can be generated, beyond the capacity for the unit to reject via evaporation to the outdoor air stream. If objectionable or frequent, connect to an internal drain system with available optional drain kit.
	Drain holes plugged in bottom edge of sleeve on outdoor side.	Inspect and clear blockage.

GCAA Specification

Model GCAA	Cooling	Sensible heat Ratio	EER	Electric Heat (kw)	Indoor Air Flow CFM			shipping box dimension	Chassis dimension
	Btuh(kw)				Hi	Medium	Low		
GCAA-E09KU235-3	9000(2.638)	0.8	3.1	2.3/3.176/4.276	380	340	265	977x597x450	876x504x359
GCAA-E12KU235-3	12000(3.517)	0.7	3.09		375	330	250		
GCAA-E15KU235-3	15000(4.396)	0.68	2.75		375	330	250		

