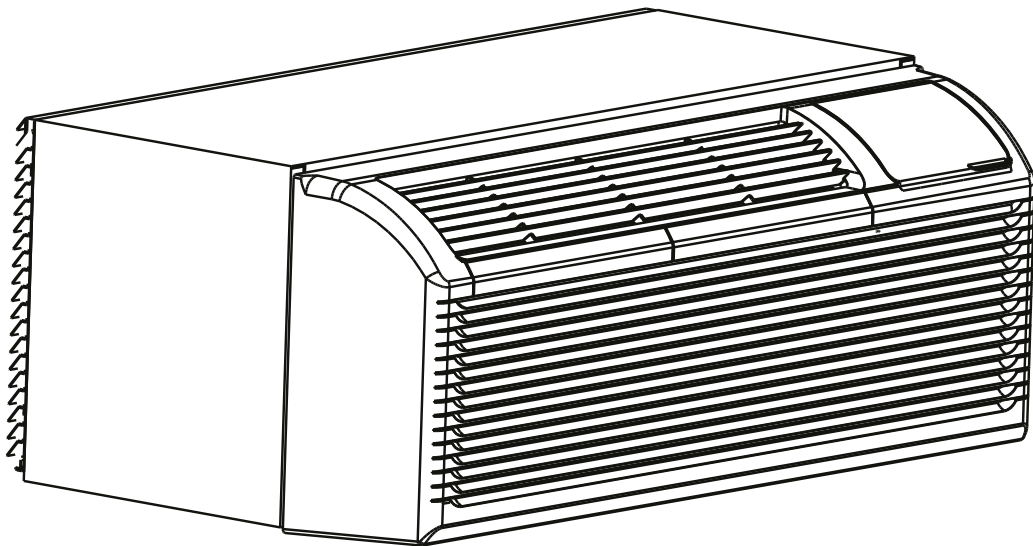




SERVICE MANUAL

PTAC

DRPTAC07Y41G1A, DRPTAC09Y41G1A, DRPTAC12Y41G1A,
DRPTAC15Y41G1A, DRPTHP07Y41G1A, DRPTHP09Y41G1A,
DRPTHP12Y41G1A, DRPTHP15Y41G1A



**CAUTION: READ ALL SAFETY PRECAUTIONS IN
THIS MANUAL BEFORE SERVICING THE UNIT**

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Safety

To prevent injury to the user or other people, and to avoid property damage, the following instructions must be followed.

Incorrect operation due to ignoring instructions will cause harm or damage.

Before service servicing the unit, be sure to read this service manual at first.

Warnings

- For installation, always contact the dealer or an Authorized service center.
- Do not install, remove, or reinstall the unit by yourself(customer).
- Take care when choosing installation location for outdoor unit; sound and air output should be considered. It may cause a problem for your neighbors local property or environment.
- Do not install the product where it will be directly exposed to sea wind (salt spray) directly. It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.
- Be sure the installation area does not deteriorate with age.
- Do not install the product on a defective installation stand.
- Be cautious when unpacking and installing the product. The edges of the product and fins of the compressor and evaporator are sharp!
- Use two or more people to lift and transport the product.
- Take care to ensure that nobody could step on or fall onto the outdoor unit.
- Install the drain hose to ensure that water is drained away properly.
- Install the panel and the cover of control box securely.
- Keep the product level, even when installing the product.
- Always check for gas (refrigerant) refrigerant leakage after installation or repair of product. Low refrigerant levels may cause failure of product.

- Do not use a defective or underrated circuit breaker.
- Always install a dedicated circuit and breaker.
- Use the correctly rated breaker of and/or fuse.
- For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized service center.
- Always ground the product.

- Do not modify or extend the power cable.
- Take care to ensure that power cable is properly installed and not exposed during operation.
- Do not place anything on the power cable.
- Do not plug or unplug the power supply plug during operation.
- Do not place a heater or other appliance near the power cable.

- If strange sounds, or small smell, or smoke comes from product,. Turn the breaker off or disconnect the power supply cable disconnect the power supply(?).
- Stop operation and close the window in storms or hurricanes. If possible, remove the product from the window before the hurricane arrives.
- Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open. Moisture may condense and wet or damage furniture.
- When the product is not be used for an extended period/length of time, disconnect the power supply plug or turn off the breaker.

- Take caution that water could does not enter the product.
- Do not allow water to run into electric parts.
- When If the product is soaked (flooded or submerged), contact an Authorized service center.
- Do not touch/operate (operation) the product with wet hands if system is energized (?) during operation (?).

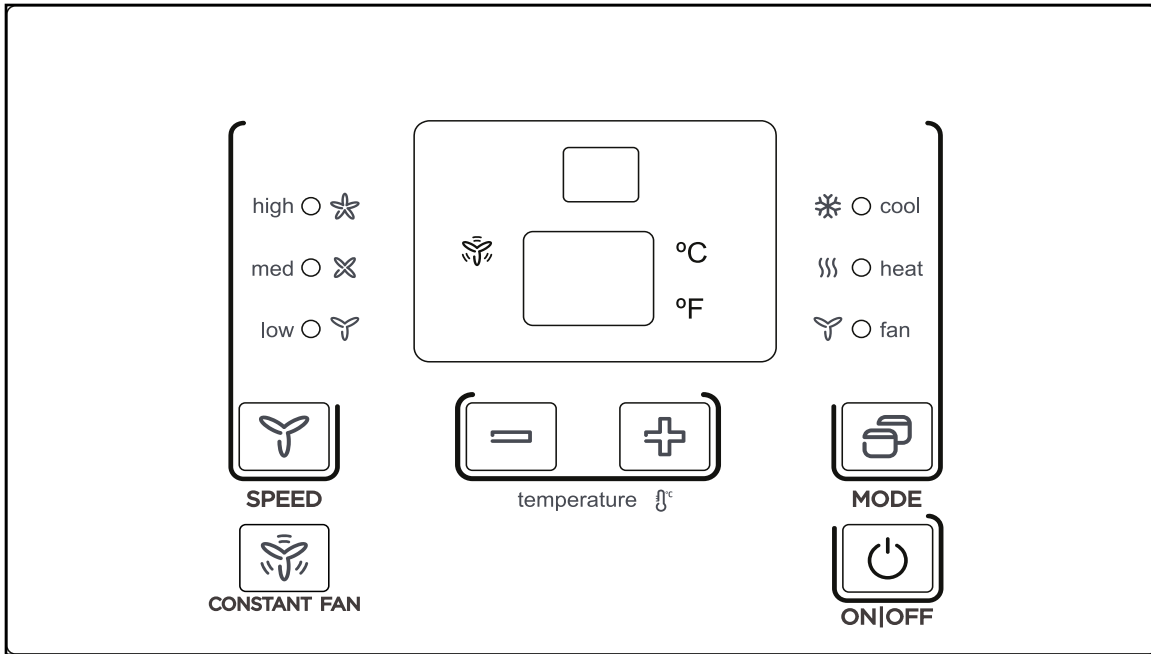
- Do not store or use flammable gas or combustible(s) objects near the product.
- Do not use the product in a tightly closed space for a long time. It could cause oxygen depletion.
- Ventilate the product from time to time when operating it together with a stove, etc.

- Turn the main power off when cleaning or maintaining the product.
- Use a soft cloth to clean. Do not use harsh detergents, solvents, etc.
- Use a firm stool or ladder when cleaning or maintaining the product.
- Clean the filter every two weeks or more often if necessary. A dirty filter reduces the efficiency of the air conditioner and could cause product malfunction or damage.
- Do not touch the metal parts of the product when removing the air filter. They are very sharp.
- Always insert the filter securely.

- Do not open the inlet grill of the product during operation. (Do not touch the electrostatic filter, if the unit is so equipped.)
- Do not block the inlet or outlet of air flow. It could cause damage to the unit.
- Do not insert hands or other object through air inlet or outlet while the product is in operation.
- Do not expose the skin directly to cool air for long periods of time.
- Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer air conditioner, not a precision refrigerant refrigeration system
- Do not drink the water drained from the product.

- Replace the all depleted batteries in the remote control with new ones batteries of the same type. Do not mix old and new batteries or different types of batteries.
- Do not recharge or disassemble the depleted batteries. Do not dispose of batteries in a fire. They may burn of or explode.
- If the liquid from the batteries gets onto your skin or clothes, wash it well with clean water.
- Do not use the remote of if the batteries have are leakedcorroded or are otherwise damaged.
- The chemical in batteries could cause burns or other health hazards.

Functions and Control Panel



The controls featured in this manual are representative of many models. Your model may differ slightly.

Power

Press the Power button to turn the unit on or off.

Mode

Push this button to cycle through the modes from COOL-HEAT-FAN-COOL. The indicator light beside the "MODE" option will illuminate, identifying the mode selected.

- **COOL:** The range of set temperature is 17°C/62°F~30°C/86°F. Cooling begins automatically when the room temperature is above the set point, and stops when the room temperature is 2°C (4°F) below the set point. But the compressor will run five (5) minutes at least in COOL mode before stopping.

- **HEAT:** The range of set temperature is 17°C/62°F~29°C/84°F. For heat pump models, the unit can alternate to run between reverse cycle heat mode and electric heater mode, according to the difference between the setting temperature and the room temperature. The fan motor cycles when the compressor stops.

NOTE

The reverse cycle and electric heater cannot be run at the same time. In the following cases, it is normal that the reverse cycle does not operate.

- When the outdoor temperature is lower than 4°C/40°F, or the room temperature falls to 4.5°C/8°F below the set point temperature.
- There is a three (3) minute minimum compressor run time at any setting to prevent short cycling. The indoor fan motor starts before the compressor and stops after the compressor cycles off.
- When S1 on the DIP SWITCHES is in the UP (ON) position.
- When frost builds up on the evaporator coils, the unit will defrost automatically, and the compressor will cycle off.

- **FAN:** Fan operation only, without heating and cooling.

Temperature Adjustment Buttons

- Push the UP (or DOWN) button to increase (or decrease) the set temperature of the unit in cooling or heating mode. The temperature can be set by increments of 1°C/ (1°F). The setting temperature appears in the display.
- Pressing and holding the + and - buttons together for three (3) seconds will alternate the temperature display between °C and °F units.

Fan (Fan Speed)

- Every time you push this button, the fan speed cycles through the settings as follows: HIGH-MED- LOW-HIGH.

Constant Fan

- In cooling mode, press the button to turn on or off the constant fan function. When the function is turned on, the constant fan light will illuminate, identifying the fan is running continuously for cooling. When the function is turned off, the constant fan light will go out, identifying the fan will start and stop with the compressor.

Displays:

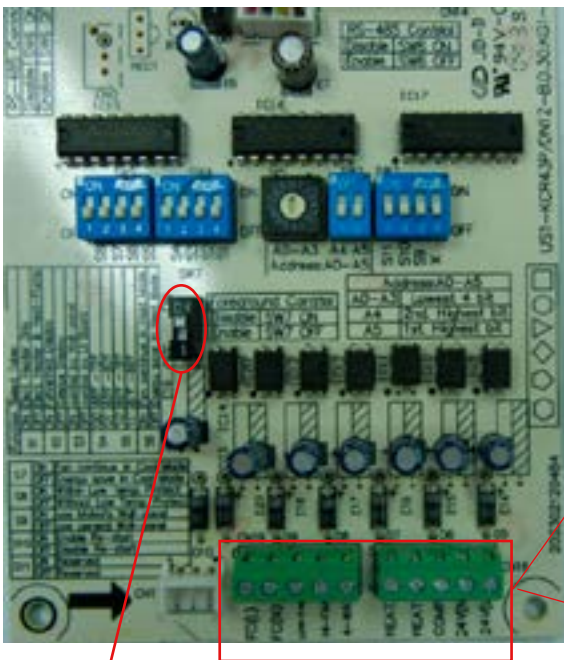
- Shows the set temperature in °C or °F. While on Fan Only mode, it shows the room temperature.

Control code:

LC-Adjustments on the control panel are not available. The unit can be set by using the wired controller only.

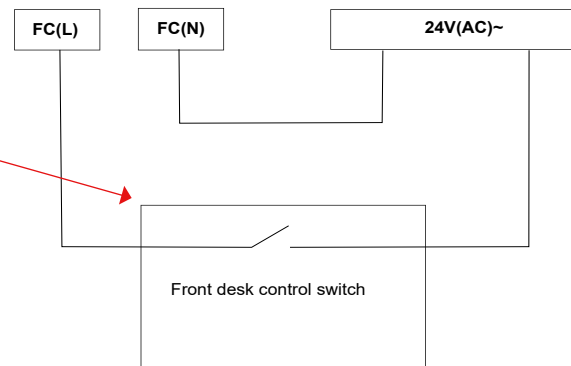
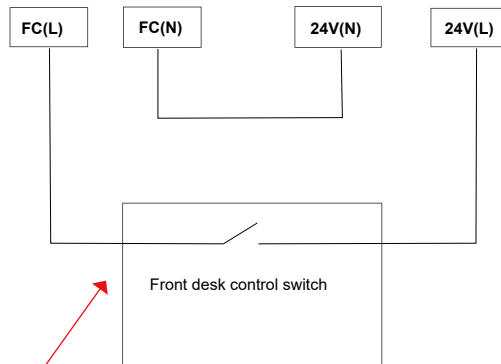
Note: When receiving the wired remote control signal, the unit will display LC five (5) seconds after a signal is sent from the remote wired control.

FC-Adjustments on the control panel and wired controller are not available. The unit can be set by FRONT DESK CONTROL only.



Turn the switch to off.

You can connect to the front desk switch two ways.



Error Codes:

AS- Open or short circuit of room temperature sensor (T1)

ES- Open or short circuit of evaporator temperature sensor(T2)

CS- Open or short circuit of condenser temperature sensor (T3)

oS- Open or short circuit of outside temperature sensor(T4)

HS- Open or short circuit of exhaust temperature sensor(T5 or T6)

E4- Communication malfunction between main control board and display board

LE- Drive-by-wire controller failure.

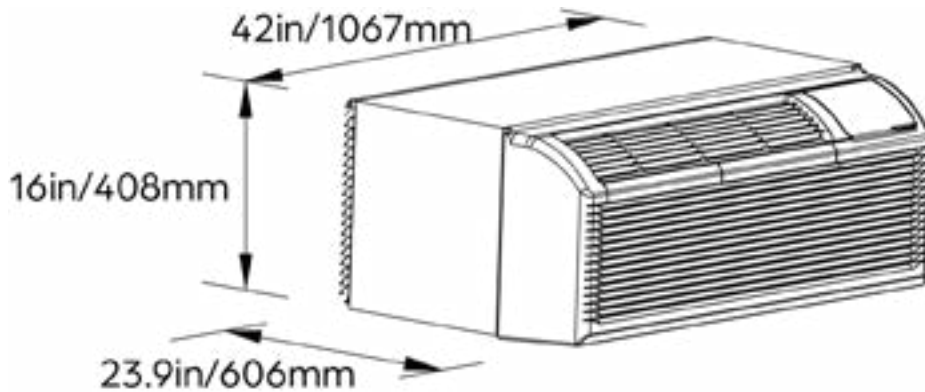
Other codes:

LO- Room temperature is lower than 0°C/32°F.

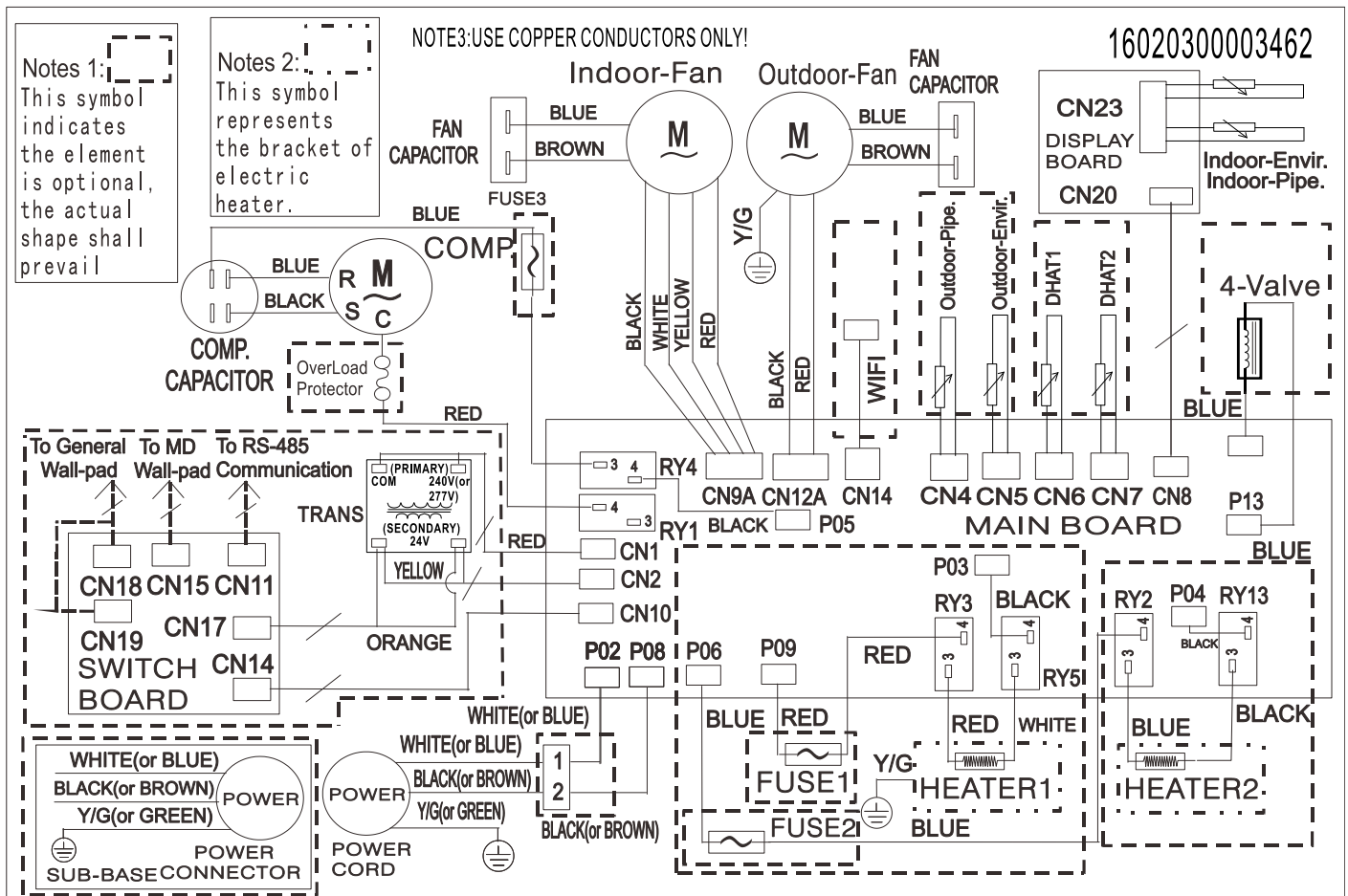
HI- Room temperature is higher than 37°C/99°F.

FP- Low temperature protection

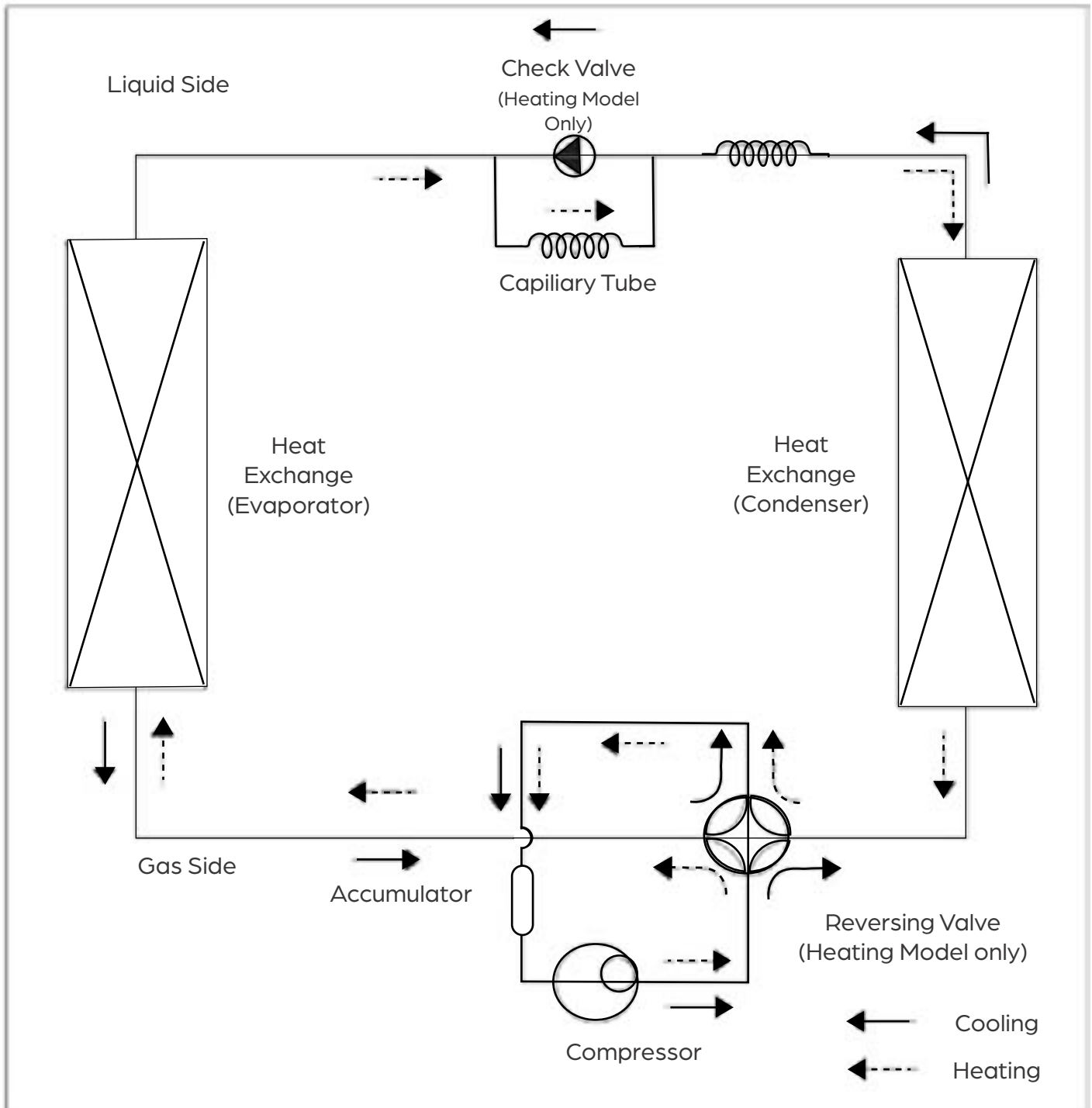
Dimensions



Wiring Diagram



Refrigeration Cycle Diagram



Electronic Function

Terms And Definitions

TA: Temperature of indoor ambient(T1)

TE: Temperature of evaporator(T2)

TC: Temperature of condenser(T3)

TO: Temperature of outdoor ambient(T4)

TS: The set temperature.

DAHT: Temperature of discharge (T5)

DAHT: Temperature of discharge (T6)

Electric Control Working Environment

Input voltage: 230/208V, 60Hz

Protection Function

- The compressor function's protection with a delay of three minutes.
- Sensor protection at open or short circuit.
- Evaporator anti-freezing protection at cooling mode.

Fan Only Mode

- The temperature can't be controlled in this mode. The room ambient temperature is displayed on LED.
- The Ion/ Timer functions are valid at in fan-only mode.
- Compressor and 4-valve cease operation.

Cooling Mode

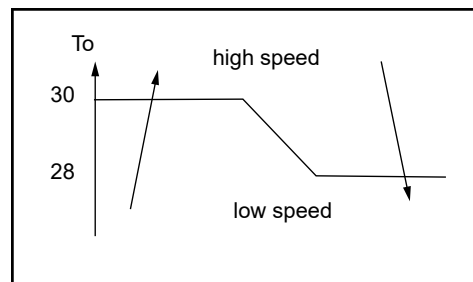
- The speed of indoor fan can be chosen as High/ Medium /Low.
- The Timer/ Sleep/ Energy Saver/ Follow Me functions work in the cooling mode.

Operation Of Outdoor Fan Motor

The fan motor is on when the compressor is on; the fan motor is off when the compressor is off. (except T2 high temp. protection).

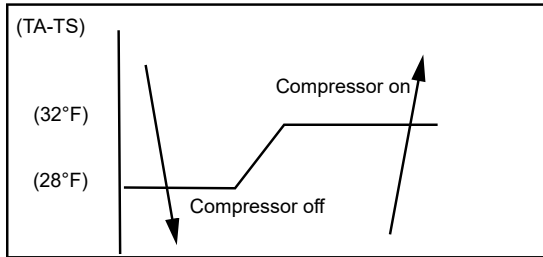
If there is only one (1) speed of the fan motor, use the high speed instead of the low speed.

- When $TO > 30^{\circ}\text{C}(86^{\circ}\text{F})$ and lasts for 1 minute, the fan motor will operates at high speed.
- When $TO < 28^{\circ}\text{C}(82^{\circ}\text{F})$ and lasts for 1 minute, the fan motor will operates at low speed.
- When $28^{\circ}\text{C}(82^{\circ}\text{F}) \leq TO \leq 30^{\circ}\text{C}(86^{\circ}\text{F})$:
 - A) If fan motor is off initially, it will operate at high speed.
 - B) If fan motor is on initially, it will keep on working at the original speed.



Compressor Running Guidelines–Cooling

The compressor will be activated by sensing the difference between set temperature and the ambient room temperature. The compressor operates as below:

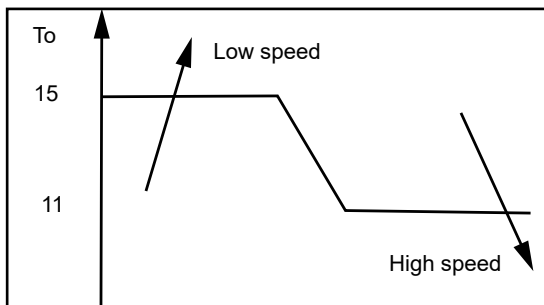


Heating Mode

- The speed of indoor fan can be chosen as High/ Medium /Low.

Operation of outdoor fan motor

Fan motor is on when compressor is on, Fan motor is off when compressor is off. (except the T2 high temp. protection). If there's only one speed of the fan motor, use the high speed instead of the low speed.

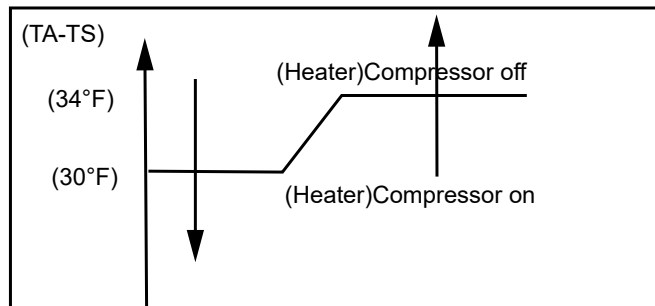


When $TO \geq 15^{\circ}C (59^{\circ}F)$ and lasts for 1 minute, the fan motor will operate at low speed.
 When $TO \leq 11^{\circ}C (52^{\circ}F)$ and lasts for 1 minute, the fan motor will operate at high speed.
 When $15^{\circ}C (59^{\circ}F) < TO < 11^{\circ}C (52^{\circ}F)$:

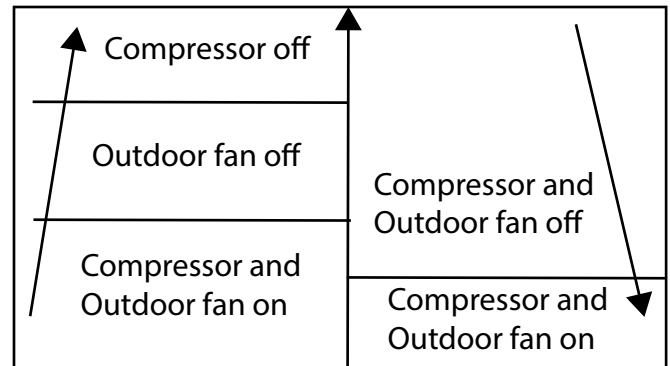
- If fan motor is off originally, it will operate at high speed.
- If fan motor is on originally, it will keep on working at the original speed.

Compressor Running Guidelines–Heating

The compressor will be activated by sensing the difference between set temperature and the ambient room temperature. The compressor operates as below:



The high temperature protection operates as below:



Electric Heater Operation

- When $TA < Ts - 1^{\circ}C (2^{\circ}F)$, the fan motor operates, and three (3) seconds later, the heater is on and operates at low speed within 30 seconds. After 30 seconds, it changes to the set speed. If the DAHT temperature checked is higher than the protection temperature, when the heater is operating, the fan motor is off automatically.
- When $TA \geq Ts + 1^{\circ}C (2^{\circ}F)$, the heater is off, and the fan motor keeps on working at set speed. If the DAHT temperature checked is lower than the protection temperature, and the operation time of fan motor is more than 15 seconds, then the fan motor is off. If the T2 protection initiates, the fan motor also does not work.
- If the DAHT temperature checked is higher than the protection temperature, the heater is off and the fan motor keeps on working. Until the DAHT temperature checked is lower than the protection temperature, the heater is on.
- If the DAHT temperature sensor is in open circuit or has short circuited, the heater is off and the fan motor is off 30 seconds later.
- If the ambient temperature sensor is in open circuit or has short circuited, the heater is off and the fan motor keeps on working until the DAHT temperature checked is lower than the protection temperature. Then the fan motor is off.

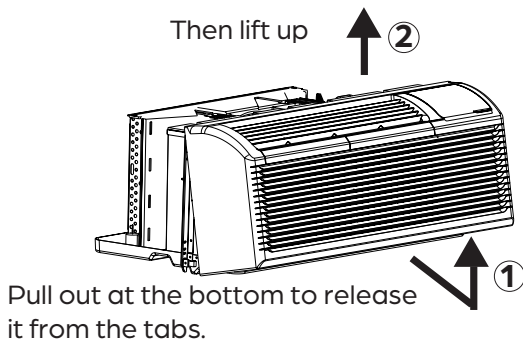
Heat Pump Operation

The Heat pump's operation mode is in accordance with the way of compressor's working.

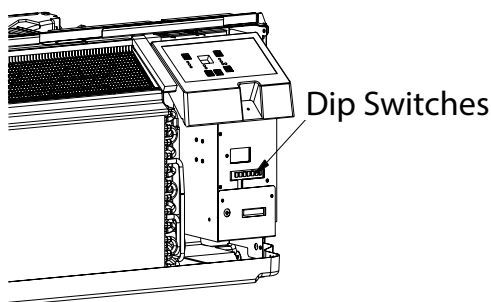
- The compressor is on (electric heater is off), the fan motor operates according to the anti-cold wind of the heat pump.
The four-way valve always stays on when $TA < Ts - 1^{\circ}C (2^{\circ}F)$, the compressor is on, and when $TA \geq Ts + 1^{\circ}C (2^{\circ}F)$, it will be off.
- Before starting the compressor, the indoor fan motor should run for 10 seconds first.
- TA is not judged within 5 minutes after starting the compressor, but it is judged immediately if the set temperature is changed.

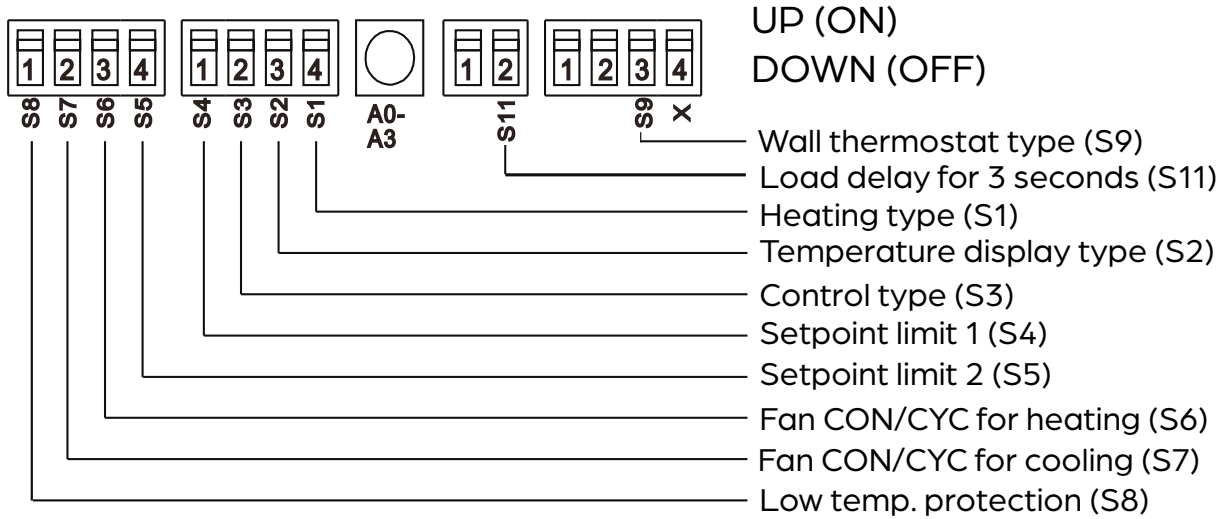
Dip Switches Configurations

Dip switch controls are located behind front panel, through an opening below the control panel. To access, remove the front panel.



Dip switches are accessible without opening the control box. The unit must be powered OFF to effectively change their status.





Dip Switch configurations and functions of each dip switch position are detailed in the as following figure and table:

| No. | Up (On) | Down (Off) | Remarks |
|-------------|--|---|--|
| S1 | Electric heat only | Electric heat and pump heat | For heat pump unit only |
| S2 | Temperature display in °C | Temperature display in °F | |
| S3 | Wall thermostat enable | Control panel enable | |
| S4*S5 | UP*UP: 6°F~86°F (16°C~30°C); UP*DOWN: 65°F~78°F (18°C~26°C); DOWN*UP: 63°F~80°F (17°C~27°C); DOWN*DOWN: 68°F~75°F (20°C~24°C) | | Two configurations (S4*S5) combine to select set point range. |
| S6 | Fan continuous run for heating | Fan cycle for heating | |
| S7 | Fan continuous run for cooling | Fan cycle for cooling | |
| S8 | Low temp. protection enable | Low temp. protection disable | |
| S9(S3 UP) | Use some type of wall thermostat | Use ptac other wall Thermostat | You can consult with the sales agency or manufacturer for details |
| S9(S3 DOWN) | Use control panel only | Use control panel or some type of wall thermostat | Use control panel or some type of wall thermostat. The other one must be turned off. |
| SW11 | Load delay for 3 seconds | Normal | Optional |

NOTE

On heating mode, the setting temperature can't be higher than 29°C/84°F.

- * **Electric Heat Only** (for heat pump unit only) – This setting is typically used for Emergency Heating.
 - * **Wall Thermostat Enable** – A wired wall thermostat can be connected to the unit. If it is, this dip switch must be moved to the Wall Thermostat Enable Position, before the wall thermostat will begin control.
 - * **Set-point Temperature Limits** – Provides a restricted range of temperature control.
- Heat and Cool Fan CON/CYC Dip-switches** – Allows the fan to operate in continuous (CON) or cycle (CYC) modes while the unit is in heating and cooling mode.
- * **Continuous (CON)** – Allows fan to run continuously, circulating air even when the temperature setting has been satisfied. This switch helps to maintain the room temperature closer to the thermostat setting.
 - * **Cycle (CYC)** – This setting allows the fan to cycle on and off with the compressor or electric heater. The fan stops a short time after the temperature setting is satisfied.

Dip Switches Configurations by Panel Control

1. Turn off the unit.
2. Press the up (+) and down (-) buttons together for three (3) seconds to activate the dip switches configurations by panel control. – See Table 2 for Dip Switches configurations by panel control.

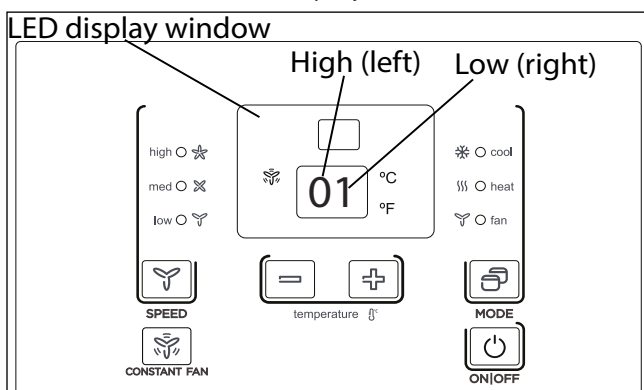
NOTE

To exit the dip switches configurations by panel control and to have the unit save the last settings, press the up (+) and down (-) buttons together for three (3) seconds again or have no operation within 30 seconds.

3. Press the up (+) button to set the dip switches, and press the down (-) button to set the functions.

Display function shows two (2) digital numbers in the LED display window.

- high (left) for dip switches
- low (right) for functions.



| No. | High(left) | Low(right) | | Remarks |
|-------|------------|---|--------------------------------|---|
| / | 0 | 1-by panel control | 0-by dip switches | |
| S1 | 1 | 1-electric heat only | 0-electric heat and pump heat | For heat pump unit only |
| S2 | 2 | 1-temperature display in °F | 0-temperature display in °C | |
| S3 | 3 | 3-use control panel or some type of wall thermostat; 2-use some type of wall thermostat; 1-use PTAC other wall thermostat; 0-control panel enable. | | You can consult with the sales agency or manufacturer for details |
| S4*S5 | 4 | 4: 62°F~86°F (17°C~30°C); 3: 61°F~86°F (16°C~30°C); 2: 65°F~78°F (18°C~26°C); 1: 63°F~80°F (17°C~27°C); 0: 68°F~75°F (20°C~24°C); | | |
| S6 | 6 | 1-fan continuous run for heating | 0-fan cycle for heating | Not available for "use PTAC other wall thermostat". |
| S7 | 7 | 1-fan continuous run for cooling | 0-fan cycle for cooling | |
| S8 | 8 | 1-low temp. protection enable | 0-low temp. protection disable | Optional |
| SW7 | A | 1-front desk control disable | 0-front desk control enable | Optional |
| SW11 | B | 1-Load delay for 3 seconds | 0-normal | Optional |

- The LED display window will show "00" when you first enter the setting mode, only when you set "01" you can start the next settings.
- To activate front desk control function, you need to pull the dip switch SW7 to DOWN(OFF), and then set the panel control to A0.
- After all set, press up (+) and down (-) buttons together for three (3) seconds to exit the operation interface and cut off the power. When powered back on, the settings are activated.

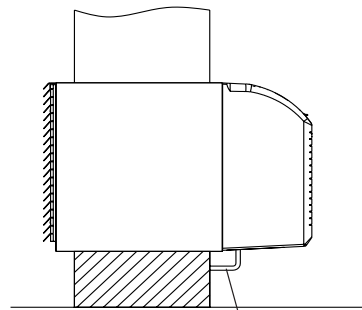
Wall Thermostat Terminal

⚠ WARNING

Only trained, qualified personnel should access electrical panel on unit and install electrical accessories. Please contact your local electrical contractor, dealer, or distributor for assistance.

Thermostat Wire Routing

- Thermostat wire is field supplied. Recommended wire gauge is 18 to 20 gauge solid thermostat wire.
- It is recommended that extra wires are run to unit in case any are damaged during installation.
- Thermostat wire should always be routed around or under, NEVER through the wall sleeve.
- The wire should then be routed behind the front panel to the easily accessible terminal connector.



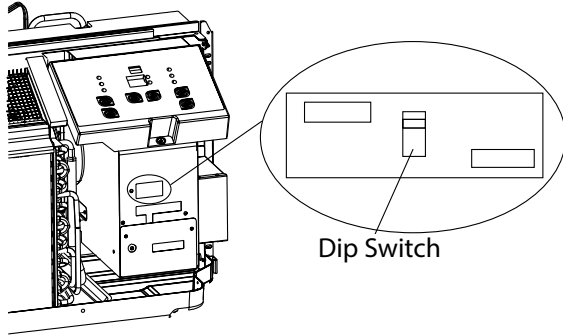
THERMOSTAT WIRE ROUTING
(UNDER SLEEVE, BEHIND FRONT PANEL)

NOTE

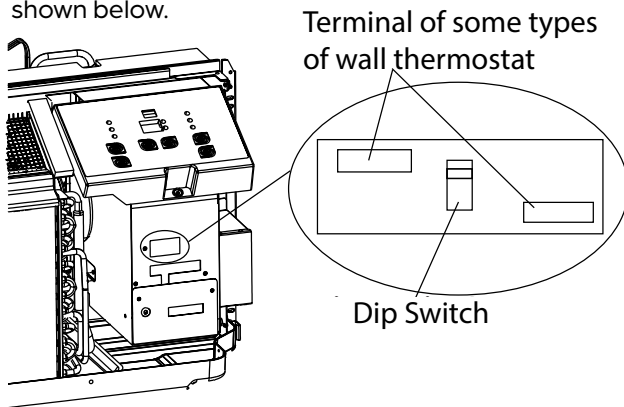
Refer to thermostat installation instructions for details on installing wall thermostat.

Installation Instructions of Some Types of Wall Thermostats (Refer to the thermostat manufacturer's instructions)

1. Pull the dip switch to the DOWN(OFF) position as shown below.

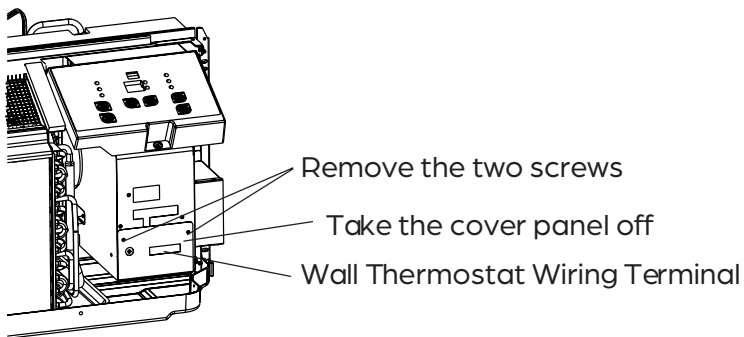


2. Insert the wire connector of the wall thermostat into the relevant terminal according to different shapes as shown below.

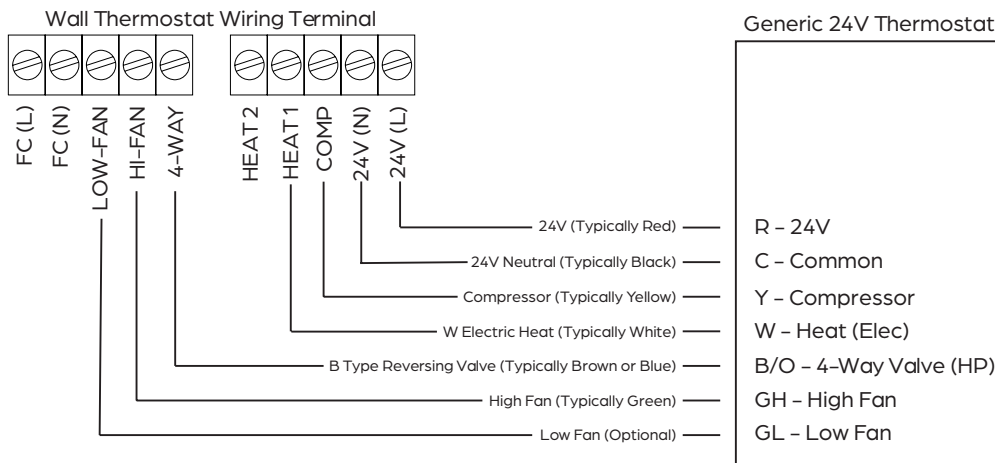


Installation Instruction of Other PTAC Wall Thermostat

- Remove the two screws as shown below and take the cover panel down.



| Terminal | Designation |
|----------|---|
| FC(L) | Front desk control terminal L |
| FC(N) | Front desk control terminal N |
| LOW-FAN | Low fan speed |
| HI-FAN | High fan speed |
| 4-WAY | 4-way valve; Reverse cycle (Energized in Heat) For heat pump models |
| HEAT2 | Electrical heater 2 |
| HEAT1 | Electrical heater 1 |
| COMP | Compressor |
| 24V(N) | 24VAC terminal N(Neutral),Common |
| 24V(L) | 4VAC terminal L |



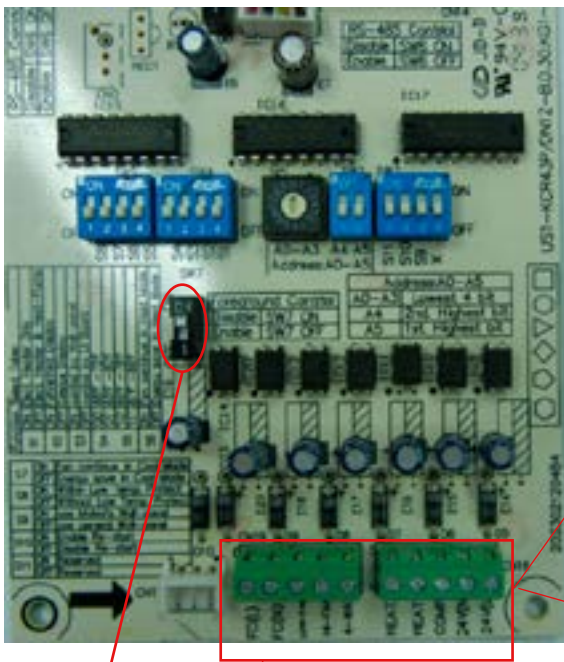
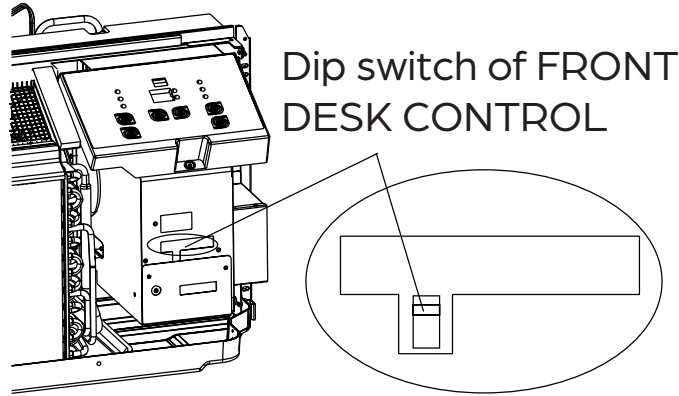
CAUTION

- Failure to follow this caution may result in equipment damage or improper operation.
- Improper wiring may damage unit electronics. Common busing is not permitted. Damage or erratic operation may result.

- Only use the 4-way terminal for heat pump connection.
- Recommend setting the compressor protection time above three (3) minutes in the wall thermostat. If set to less than three (3) minutes, the compressor will still delay restart 3 minutes.
- Wall thermostat must be heating to changeover 4-way valve.
- For thermostats that have only one fan speed output (on or auto), the fan speed is determined by how the terminal connector is wired.
 - If a low fan speed is desired, wire the G output from the thermostat to (LOW-FAN) on the unit's terminal block.
 - If a high fan speed is desired, wire the G output from the thermostat to (HI-FAN) on the unit's terminal block.
- The range of set temperatures of the wall thermostat must be within the range of the DIP switch settings.
- The wall thermostat must be set to the proper type: heat pump or no heat pump.
- If the wall thermostat has only one electrical heater output, connect the two (2) terminals of HEAT 1 and HEAT 2. The unit can operate two (2) electrical heaters (if the unit has two electrical heaters).
- Please do not remove the control panel.

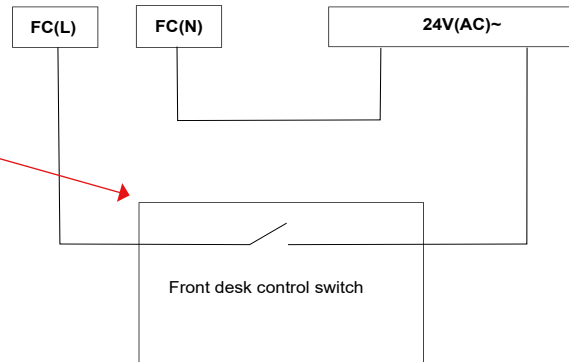
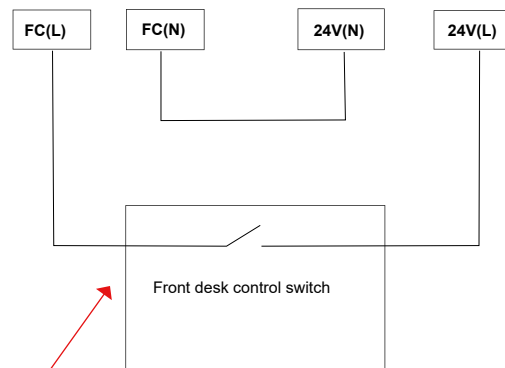
Front Desk Control

- The controller can handle a switch signal from FC(L) and FC(N) input, called front desk control.
 - Input must be 24VAC.
 - If system doesn't receive a 24VAC signal, it will turn unit off; otherwise, the unit runs in normal control.
- A DIP switch controls the FRONT DESK CONTROL feature. If the DIP switch is DOWN, the unit will be turned off.

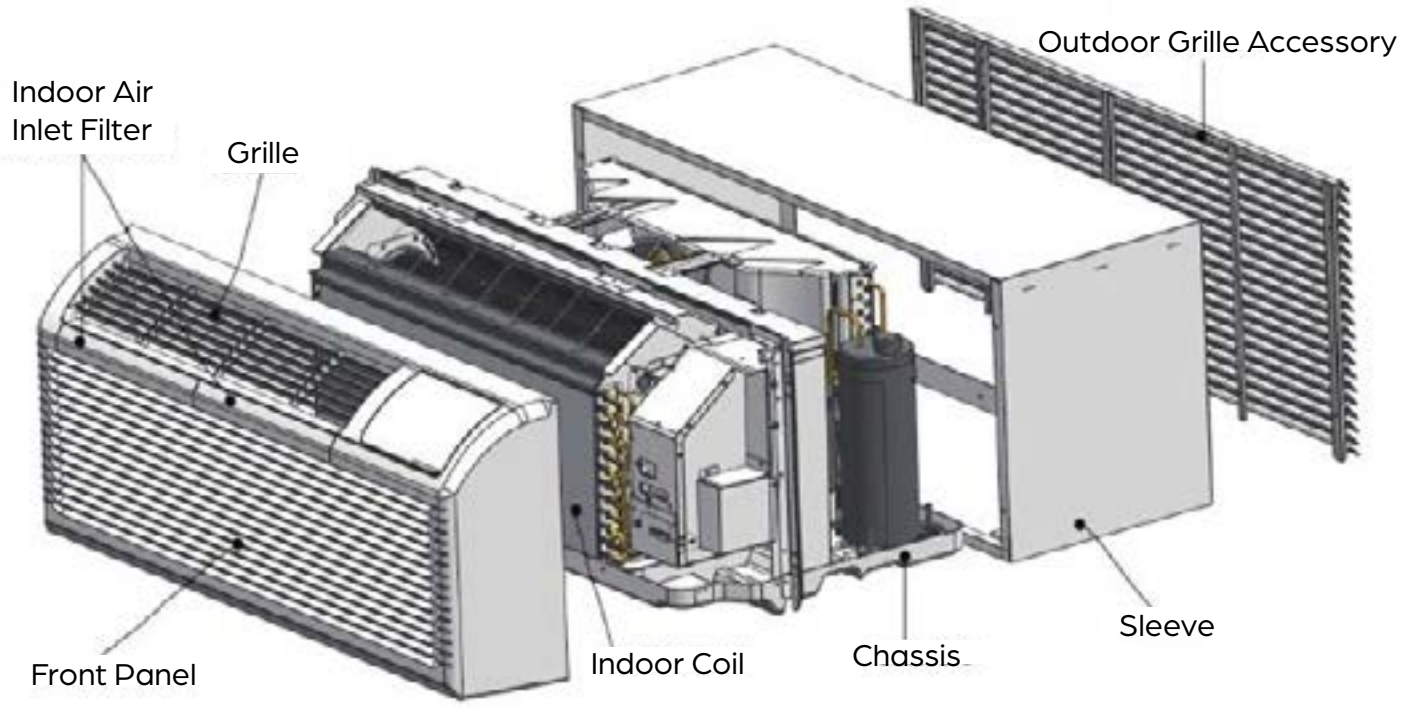


Turn the switch to off.

You can connect to the front desk switch two ways.



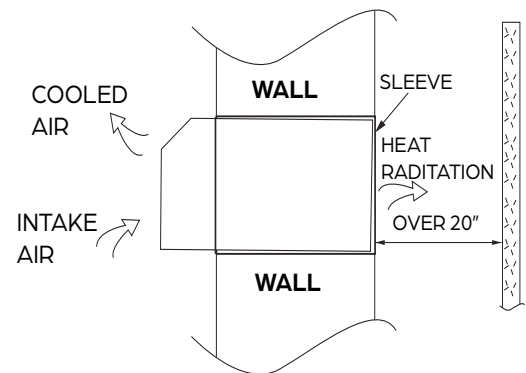
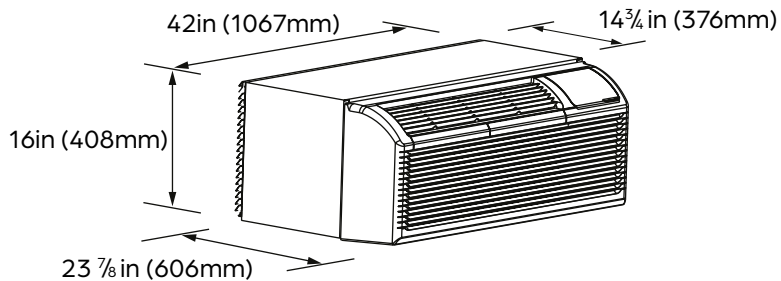
Unit Components



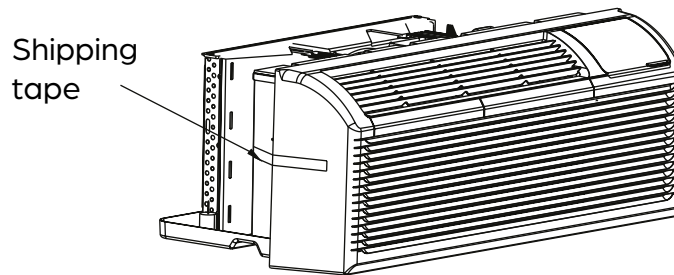
Installation

Install the new air conditioner according to these instructions to achieve the best performance. All wall sleeves used to mount the new air conditioner must be in good structural condition and have a rear grille that securely attaches to the sleeve or the flange of the sleeve. To avoid vibration and noise, make sure the unit is installed securely and firmly. When installing the sleeve, make certain there is nothing within 20" of the back that would interfere with heat radiation and exhaust air flow. For existing sleeves, you should measure the wall sleeve dimensions.

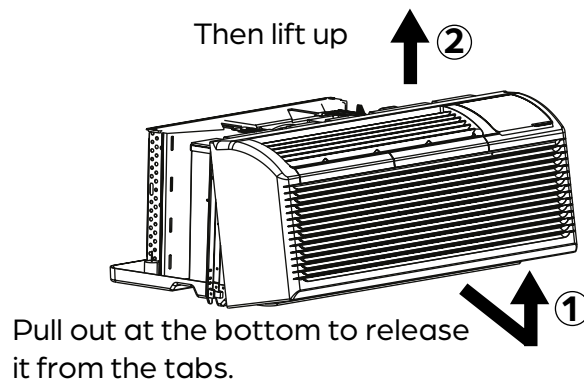
Air Conditioner and Wall Sleeve Dimensions



1. Carefully remove the shipping tape from the front panel.



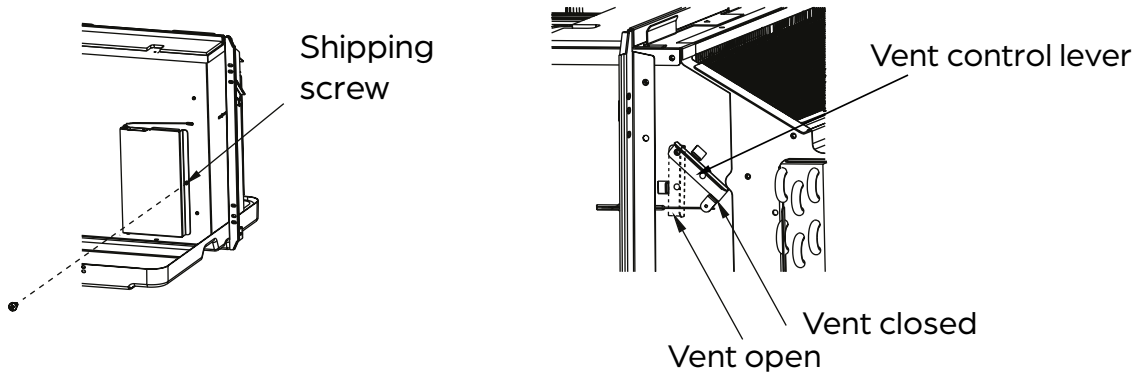
2. Remove the front panel.



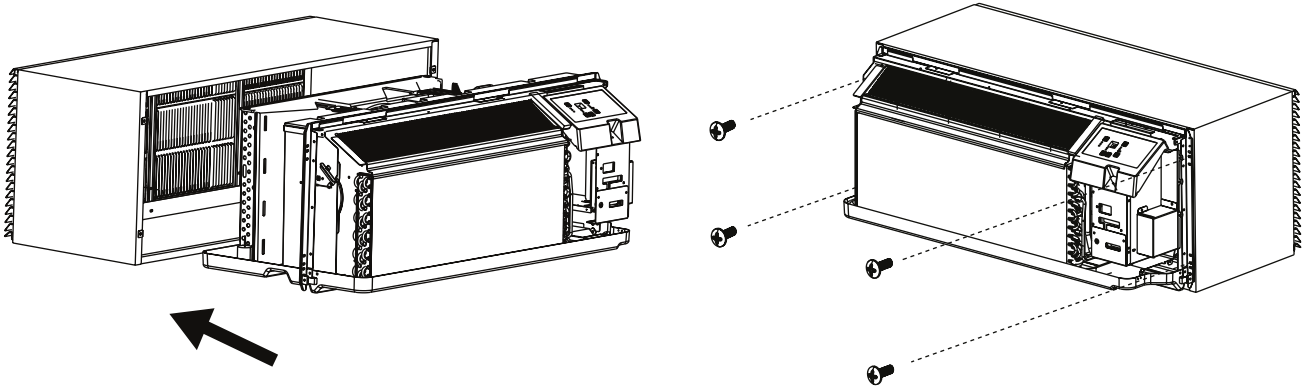
3. Remove the shipping screw from the vent door and rotate the vent control lever to either open or closed.

NOTE

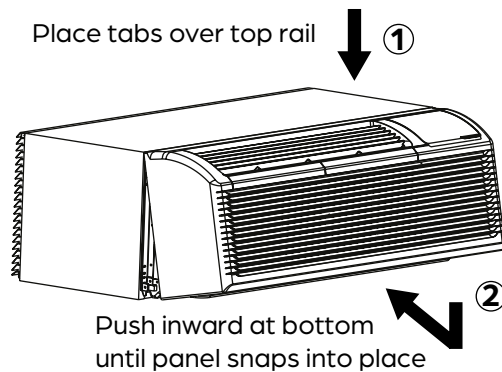
- When the vent control lever is set at the closed position, only the air inside the room is circulated and filtered. When set at the open position, fresh outdoor air will be drawn into the room. This will reduce heating or cooling efficiency.



4. Lift the unit and slide it into the wall sleeve until it is firmly against the back of the wall sleeve. Secure the unit with the four (4) screws and washers, supplied with the SLEEVE ASSEMBLY (purchased separately), through the corner holes that bracket the unit.



5. Reinstall the front panel.



Care and Cleaning

CAUTION

Failure to follow this caution may result in equipment damage or improper operation.

DO NOT operate unit without filters in place. If a filter becomes torn or damaged, it should be replaced immediately. Operating without filters in place or with damaged filters will allow dirt and dust to reach indoor coil and reduce cooling, heating, airflow, and efficiency of the unit. Airflow restriction may cause damage to the unit.

Air Filters:

Important: Turn off unit before cleaning!

NOTE

The most important thing you can do to maintain unit efficiency is to clean the filters once every two (2) weeks or as required. Clogged filters reduce cooling, heating, and airflow.

Keeping Filters clean will:

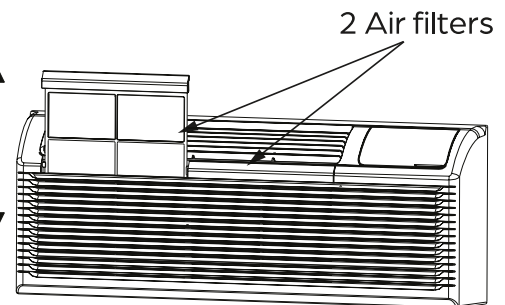
- Decrease cost of operation.
- Save energy.
- Prevent clogged indoor coil.
- Reduce risk of premature component failure.

To Clean Air Filters:

1. Turn unit off.
2. Remove filters from the front panel.
3. Vacuum off heavy dust and debris.
4. Run water through filter.
5. Allow to air dry thoroughly before replacing.

Pull up to remove ↑

↓ Push down to replace



Front Panel And Case:

1. Turn off the unit and disconnect the power supply.
2. To clean, use water and a mild detergent. **DO NOT** use bleach or abrasives. Some commercial cleaners may damage the plastic parts. Allow to air dry thoroughly before turning on.

Outdoor Coil:

Coil on the outdoor side of the unit should be checked regularly. Unit will need to be removed to inspect dirt build-up that will occur on the inside of the coil. If clogged with dirt and soot, the coil should be professionally cleaned. Clean inside and outside of the outdoor coils regularly.

NOTE

- Never use a high-pressure spray to clean any part of the unit.
- Never use a hair/clothes dryer or other means to speed up drying.

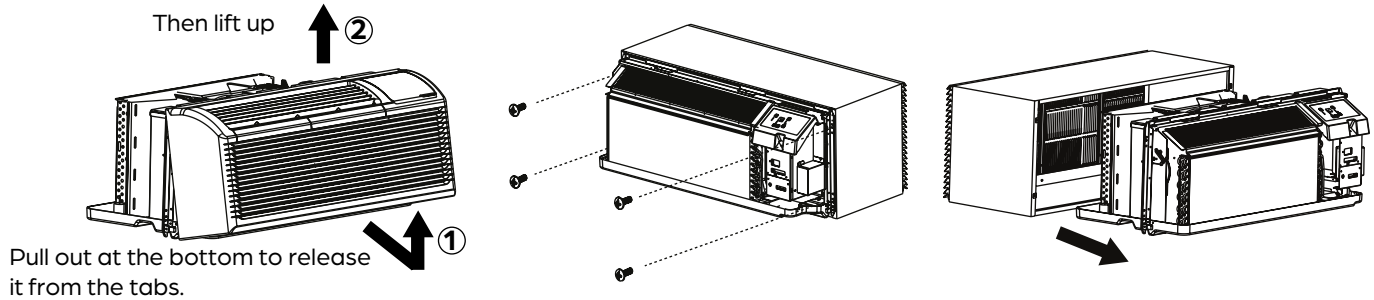
Vent Door Filter:

NOTE

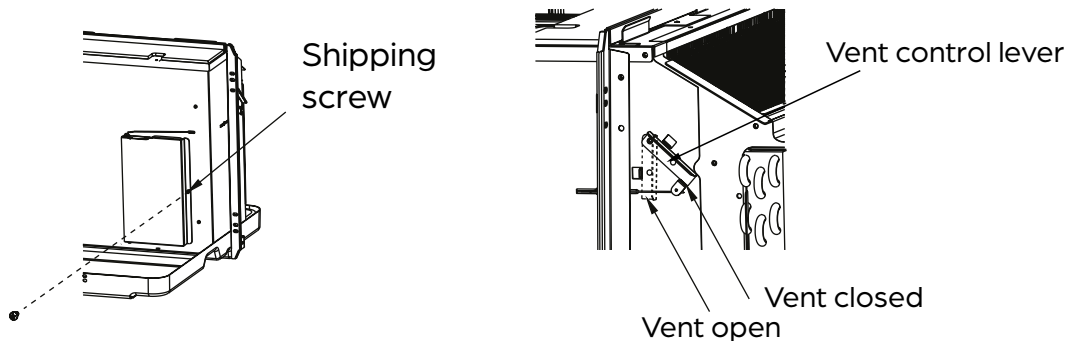
The vent filter should be cleaned twice a year, or as required.

Important: Turn off unit before cleaning!

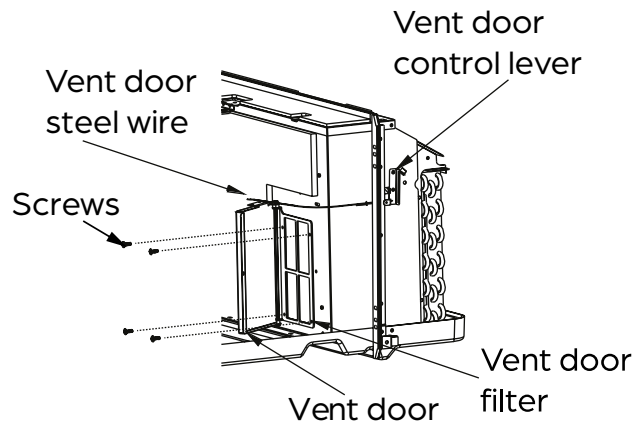
1. To access the Vent Door Filter, remove the unit from the wall sleeve by taking the front panel off, removing the four (4) corner screws, and pulling out.



2. Make sure the shipping screw is removed from the vent door and rotate the vent control lever to the open position.



3. Remove the vent door and filter by removing the four (4) screws from the filter and disconnecting the steel wire from the top of the vent door.
4. Clean the filter and dry thoroughly before replacing.
5. Replace filter and vent door by reinstalling the four (4) screws to the filter and reconnecting the steel wire to the top of the vent door.



Power Supply Cord

The power supply cord contains a current device that senses damage to the power cord. To test your power supply cord do the following:



NOTE: Some plugs have buttons on the top.

1. Plug in the Air Conditioner.
2. The power supply cord will have two (2) buttons on the plug head. Press the TEST button. You will notice a click as the RESET button pops out.
3. Press the RESET button. Again, you will notice a click as the button engages. The power supply cord is now supplying electricity to the unit.

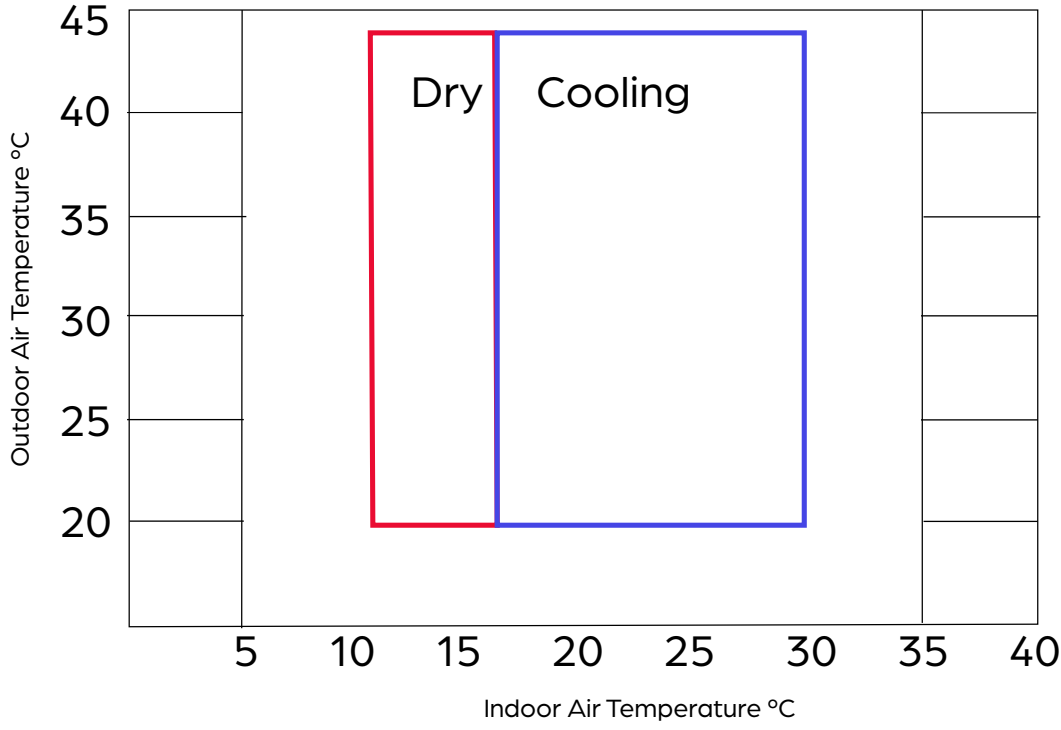
- Do not use this device to turn the unit on or off.
- Always make sure the RESET button is pushed in for correct operation.
- The power supply cord must be replaced if it fails reset when either the TEST button is pushed or it cannot be reset. A new one can be obtained from Durastar.
- If the power supply cord is damaged, it cannot be repaired. It MUST be replaced by one obtained from Durastar.
- All power supply cords for this product series come with a NEMA 6-20P plug.
- Be sure the electrical service is adequate for the model you have chosen. This information can be found on the serial plate, which is located on the side of the cabinet and behind the grille.



Plug Type (NEMA)
6-20P

Operation Characteristics

Cooling Operation



Heating Operation



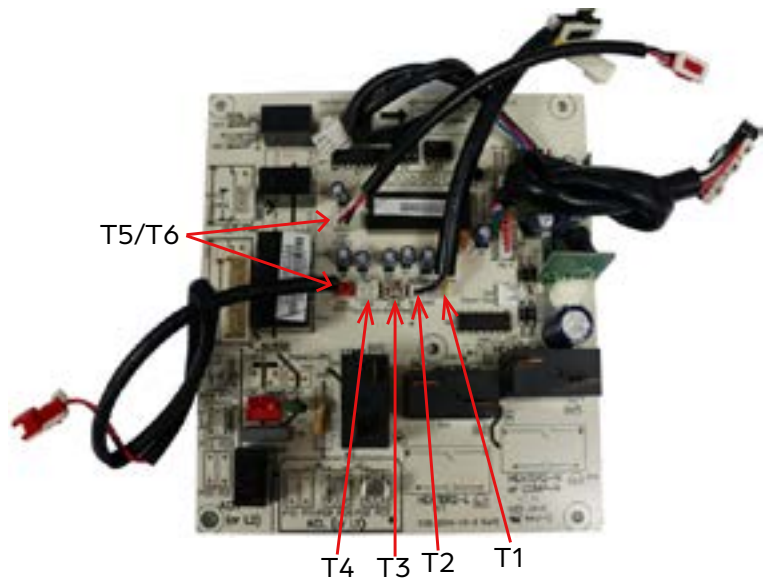
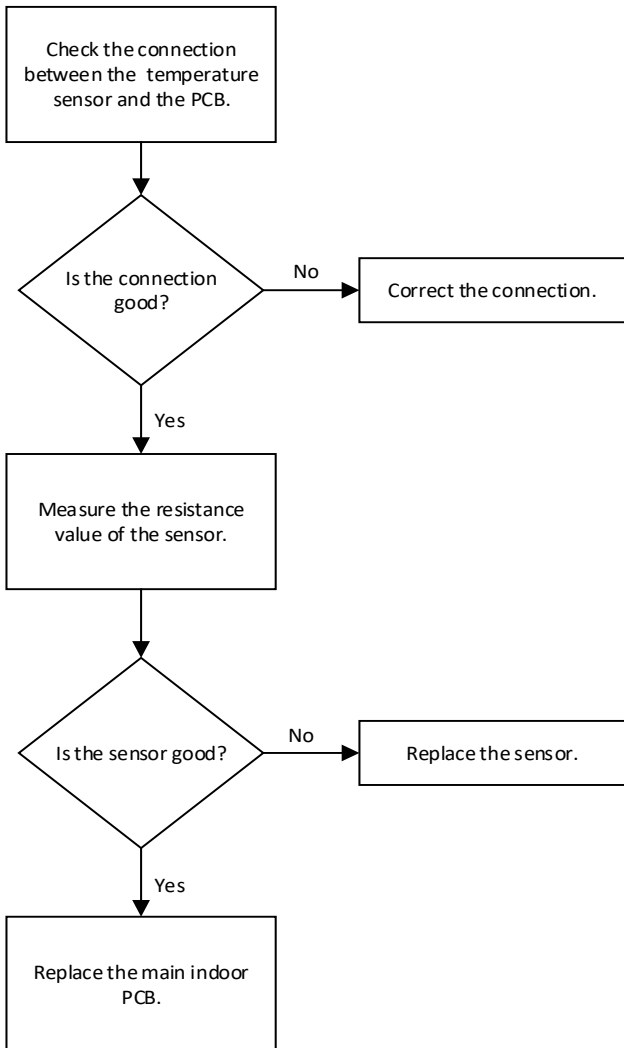
Troubleshooting

Error Display

| Codes | Contents |
|-------|--|
| AS | Open or short circuit of room temperature sensor (T1) |
| ES | Open or short circuit of evaporator temperature sensor(T2) |
| CS | Open or short circuit of condenser temperature sensor (T3) |
| oS | Open or short circuit of outside temperature sensor(T4) |
| HS | Open or short circuit of exhaust temperature sensor(T5 or T6) |
| HI | Temperature is lower than display range(0 /32) |
| Lo | Temperature is higher than display range(37 /99) |
| E4 | Communication malfunction between main control board and display board |
| LE | Drive-by-wire controller failure. |

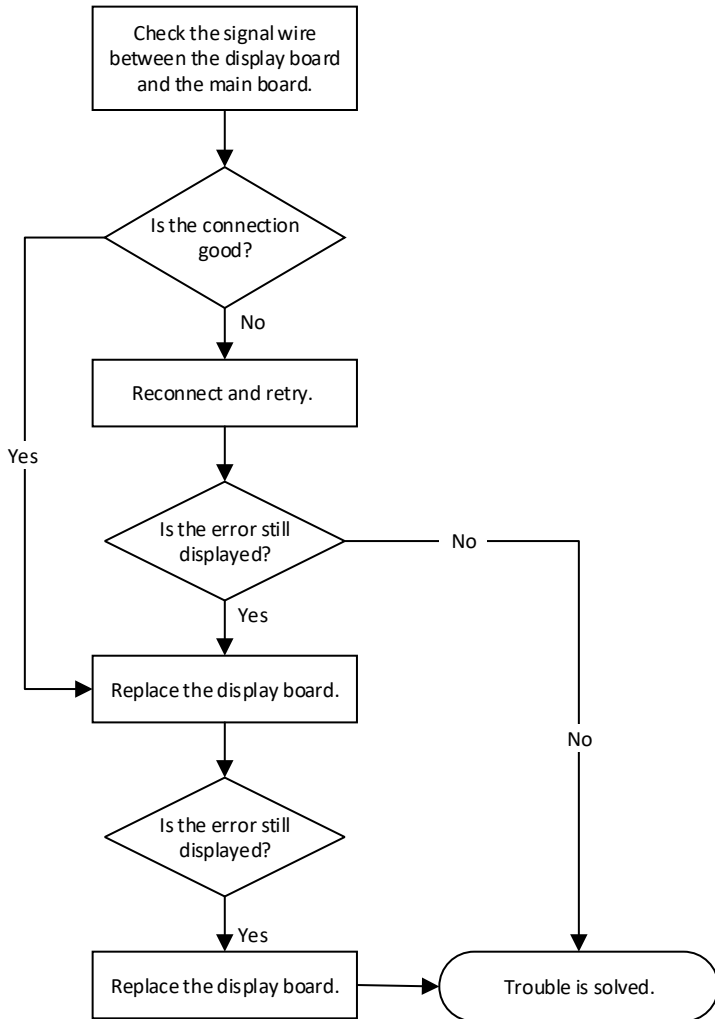
Open Circuit or Short Circuit of the Temperature Sensor

| | |
|---------------------------------|---|
| Error Code | AS / E5 / CS / oS / HS |
| Malfunction Decision Conditions | If the sampling voltage is lower than 0.06V or higher than 4.94V, the LED will display the failure. |
| Supposed Causes | <ul style="list-style-type: none"> • Wiring mistake • Faulty sensor • Faulty PCB |



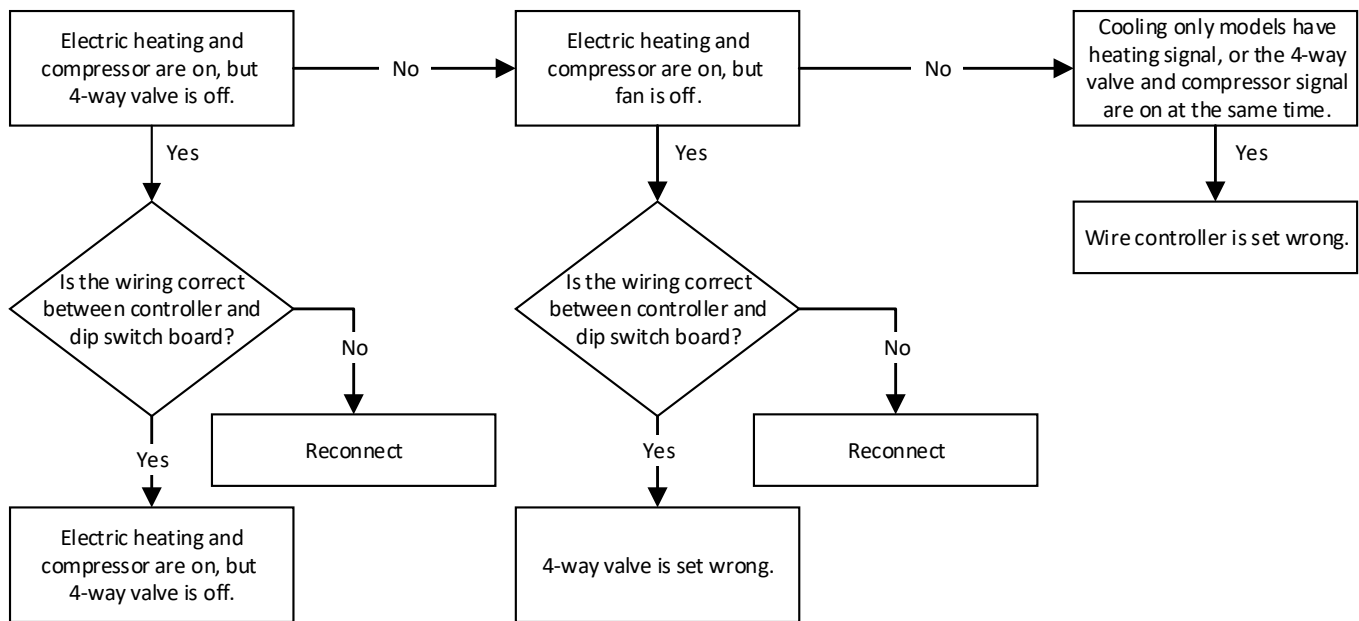
Communication Issue Between Main Control Board & Display Board

| | |
|---------------------------------|---|
| Error Code | E4 |
| Malfunction Decision Conditions | Main control board does not receive feedback from display board during 120 seconds. |
| Supposed Causes | <ul style="list-style-type: none"> • Wiring mistake • Faulty display board • Faulty main control board |



Drive-By Wire Controller Failure

| | |
|---------------------------------|---|
| Error Code | LE |
| Malfunction Decision Conditions | <ul style="list-style-type: none"> • Electric heating signal or compressor signal is on, but fan signal is off. • Electric heating signal and compressor signal are on, but 4-way valve signal is off. • Cooling only models have heating signal, or the 4-way valve signal and compressor signal are on at the same time. |
| Supposed Causes | <ul style="list-style-type: none"> • Wiring mistake • Faulty wire controller • Wire controller does not work |



| Dip Switch Terminal | Designation | 24V Controller |
|---------------------|-----------------------------------|----------------|
| FC(L) | Front desk control terminal L | |
| FC(N) | Front desk control terminal N | |
| LOW-FAN | Low fan speed | GL |
| HI-FAN | High fan speed | GH |
| 4-WAY | 4-way valve (for heat pump model) | B |
| HEAT2 | Electric heater 2 | W |
| HEAT1 | Electric heater 2 | (W) |
| COMP | Compressor | Y |
| 24V(N) | 24VAC terminal N COM | C |
| 24V(L) | 24VAC terminal L | R |

Troubleshooting Table

| Problem & Causes | Solutions |
|--|---|
| Unit Does Not Start | |
| Unit may have become unplugged | Plug the unit in. NOTE: The plug has a test/retest button. Ensure the plug isn't tripped. |
| Fuse may have blown | Replace the fuse. See Note 1. |
| Circuit breaker may have been tripped | Reset the circuit breaker. See Note 1. |
| Unit may be off | Turn unit on (bottom right button on keypad) |
| Unit may be in a protection mode. | |
| Unit not Cooling/Heating Room | |
| Unit air discharge section is blocked | Ensure curtains, blinds, or furniture are not restricting/blocking unit airflow. |
| Temperature setting is not high or low enough NOTE: Setpoint limits may not allow temperature desired. Check section on Dipswitch settings. | Reset to a lower or higher temperature setting. |
| Unit air filters are dirty. | Remove and clean filters. |
| Room is excessively hot or cold when unit started. | Allow sufficient amount of time for unit to heat or cool the room. Start heating or cooling early before outdoor temperature, cooking heat or gatherings of people make room uncomfortable. |
| Vent door left open. | Close vent door. |
| Unit may be in a protection mode. | |
| Compressor is in time delay. | |
| Display Has Strange Numbers / Characters On It | |
| Unit may be in a protection mode. | |
| The unit may be set for °C. | Set unit to °F. |
| Unit Making Noises | |
| Clicking, gurgling and whooshing noises are normal during operation of unit. | |
| Water Dripping Outside | |
| If a drain kit has not been installed, condensation runoff during very hot and humid weather is normal. See Note 2. If a drain kit has been installed and is connected to a drain system, check gaskets and fittings around drain for leaks and plugs. | |

NOTES:

1. If circuit breaker is tripped or fuse is blown more than once, contact a qualified electrician.
2. If unit is installed where condensation drainage could drip in an undesirable location, an accessory drain kit should be installed and connected to drain system.

| Problem & Causes | Solutions |
|--|---|
| Water Dripping Inside | |
| Wall sleeve is not level. | Wall sleeve must be installed level for proper drainage of condensation. Check that installation is level and make any necessary adjustments. |
| Ice or Frost Forms on Indoor Coil | |
| Low outdoor temperature. | When the outdoor temperature is approximately 55°F or below, frost may form on the indoor coil when unit is in Cooling mode. Switch unit to FAN operation until ice or frost melts. |
| Dirty filters. | Remove and Clean filters. |
| Compressor Protection | |
| Power may have cycled, so the compressor is in a restart protection. | <p>Random Compressor restart—Whenever the unit is plugged in, or power has been restarted, a random compressor restart will occur. After a power outage, the compressor will restart after approximately three (3) minutes.</p> <p>Compressor Protection—To prevent short cycling of the compressor, there is a random startup delay of three (3) minutes and a minimum compressor run time of three (3) minutes.</p> |
| Electric Heating Failure | |
| Have a professional clean the evaporator every three (3) months. | |

Temperature Sensor Resistance

| Temp. °C/°F | Resistance KΩ | Temp. °C/°F | Resistance KΩ | Temp. °C/°F | Resistance KΩ |
|-------------|---------------|-------------|---------------|-------------|---------------|
| -10/14 | 62.2756 | 17/62 | 14.6181 | 44/111 | 4.3874 |
| -9 /15.8 | 58.7079 | 18/64 | 13.918 | 45/113 | 4.2126 |
| -8 /17.6 | 56.3694 | 19/66 | 13.2631 | 46/115 | 4.0459 |
| -7 /19.4 | 52.2438 | 20/68 | 12.6431 | 47/117 | 3.8867 |
| -6 /21.2 | 49.3161 | 21/70 | 12.0561 | 48/118 | 3.7348 |
| -5 /23 | 46.5725 | 22/72 | 11.5 | 49/120 | 3.5896 |
| -4 /24.8 | 44 | 23/73 | 10.9731 | 50/122 | 3.451 |
| -3 / 26.6 | 41.5878 | 24/75 | 10.4736 | 51/124 | 3.3185 |
| -2 / 28.4 | 39.8239 | 25/77 | 10 | 52/126 | 3.1918 |
| -1 /30.2 | 37.1988 | 26/79 | 9.5507 | 53/127 | 3.0707 |
| 0 /32 | 35.2024 | 27/81 | 9.1245 | 54/129 | 2.959 |
| 1 /33.8 | 33.3269 | 28/82 | 8.7198 | 55/131 | 2.8442 |
| 2 /35.6 | 31.5635 | 29/84 | 8.3357 | 56/133 | 2.7382 |
| 3 /37.4 | 29.9058 | 30/86 | 7.9708 | 57/135 | 2.6368 |
| 4 /39.2 | 28.3459 | 31/88 | 7.6241 | 58/136 | 2.5397 |
| 5 /41 | 26.8778 | 32/90 | 7.2946 | 59/138 | 2.4468 |
| 6 /42.8 | 25.4954 | 33/91 | 6.9814 | 60/140 | 2.3577 |
| 7 /44.6 | 24.1932 | 34/93 | 6.6835 | 61/142 | 2.2725 |
| 8 /46.4 | 22.5662 | 35/95 | 6.4002 | 62/144 | 2.1907 |
| 9 /48.2 | 21.8094 | 36/97 | 6.1306 | 63/145 | 2.1124 |
| 10 /50 | 20.7184 | 37/99 | 5.8736 | 64/147 | 2.0373 |
| 11 /51.8 | 19.6891 | 38/100 | 5.6296 | 65/149 | 1.9653 |
| 12 /53.6 | 18.7177 | 39/102 | 5.3969 | 66/151 | 1.8963 |
| 13 /55.4 | 17.8005 | 40/104 | 5.1752 | 67/153 | 1.830 |
| 14 /57.2 | 16.9341 | 41/106 | 4.9639 | 68/154 | 1.7665 |
| 15 /59 | 16.1156 | 42/108 | 4.7625 | 69/156 | 1.7055 |
| 16 /60.8 | 15.3418 | 43/109 | 4.5705 | 70/158 | 1.6469 |