

OPERATING INSTRUCTIONS

USERS CONTROLS

A 7 button touch key pad, located behind the control door, controls both temperature and operation mode. The key pads can be used alone or in combination.

THERMOSTAT SETTING

7 BUTTON TOUCH PAD WITH DISPLAY

Pressing the COOL thermostat control and the up or down arrows will provide a cooler room temperature. Pressing the HEAT thermostat control and the up or down arrow keys will provide a warmer room temperature.

LCDI OR AFCI POWER CORD

230/208V and 115V units are equipped with LCDI or AFCI power cords and can open the electrical circuit to the unit. In the event the unit does not operate, check the reset button located on or near the head of the power cord as part of the normal troubleshooting procedure.

FAN SPEED

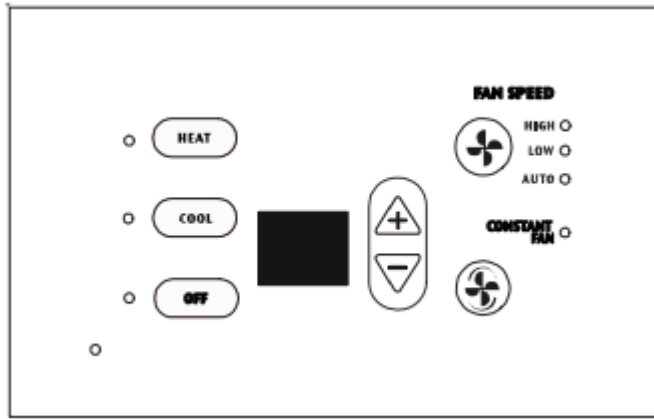
The fan speed touch key will deliver high, low or auto fan speed to circulate room air. NOTE: The AUTO selection will not be available if a fan speed is selected without COOL or Heat selection.

Fan Operation HIGH or LOW with HEAT or COOL mode selected - The selected fan speed shall run in the selected speed.

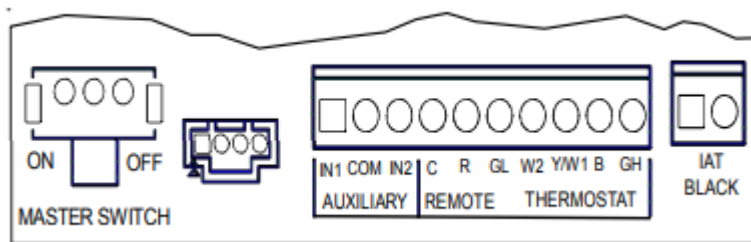
Fan Operation AUTO with HEAT or COOL mode selected - The fan will run in low and high speed. The changes in fan speed are automatic.

DIAGNOSTIC LIGHT

The green diagnostic light located in the lower left hand corner of the touchpad and indicates operation warnings. This light usually indicates that either the filter or coils need cleaning. Please refer to the Maintenance and Cleaning section for the proper cleaning procedure. If this light is still on after cleaning, please refer to the Diagnostic & Status Report section for assistance.



Touch Pad With Display User Controls



Control Board User Inputs*

*NOTE: The PTAC Wire Harness Kit (PWHK01G70) is required for the auxiliary or remote thermostat options.

ADDITIONAL CONTROL INPUTS

The control inputs shown above provide additional unit control and features. To access these control inputs, the cabinet front must be removed (see Front Removal).

MASTER SWITCH

The master switch disconnects power to all of the system components. When this switch is in the off position, the compressor, fan motor, reversing valve, and electric resistance heater will all be de-energized.

REMOTE CONTROL INPUTS

The C, R, GL, W2, Y/W1, B/O, and GH terminals provide control inputs for a “manufacturer-approved” remote wall mounted thermostat. The “B” terminal can be configured to become “O” if needed see Configuration Settings For remote control thermostat operation, refer to the Remote Thermostat Operation section.

FRONT DESK CONTROL (IN1, IN2, COM)

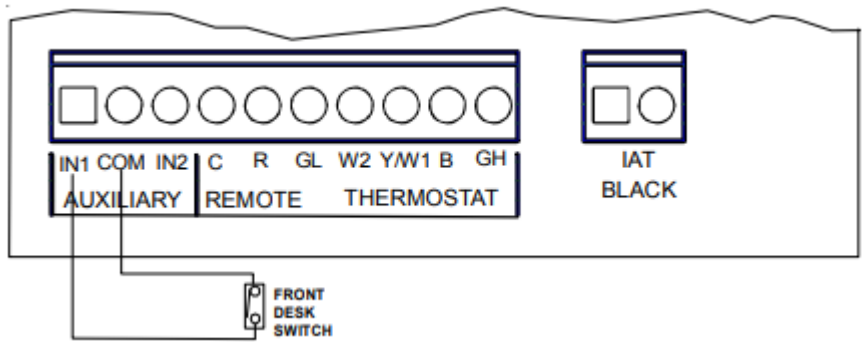
The COM and IN2 or IN1 terminals provide control inputs for a front desk switch. Shorting across the terminals will disable unit operation. The only control function which will remain active when these terminals are shorted is freeze protection. Any switch which will produce a short circuit

across these two terminals can be used as a front desk switch. The contact resistance of the switch, when closed, must be less than 200 ohms for the front desk feature to operate properly. Table 3 shows the maximum wire length and corresponding gage size for installation of a front desk switch. The following figure shows a wiring schematic for connecting the front desk switch to the unit.

If the unit is configured for wired unrented setback energy management (see Configuration Settings section u8 and u9). If IN* and COM are shorted, the unit will go into setback temperatures for cooling and heating as configured in c3 and c4 (see Configuration Settings). Unit operation will be disabled. "Fd" (see Diagnostic Codes) will appear on the display. This allows the room to quickly recover to a comfortable temperature when the room is occupied.

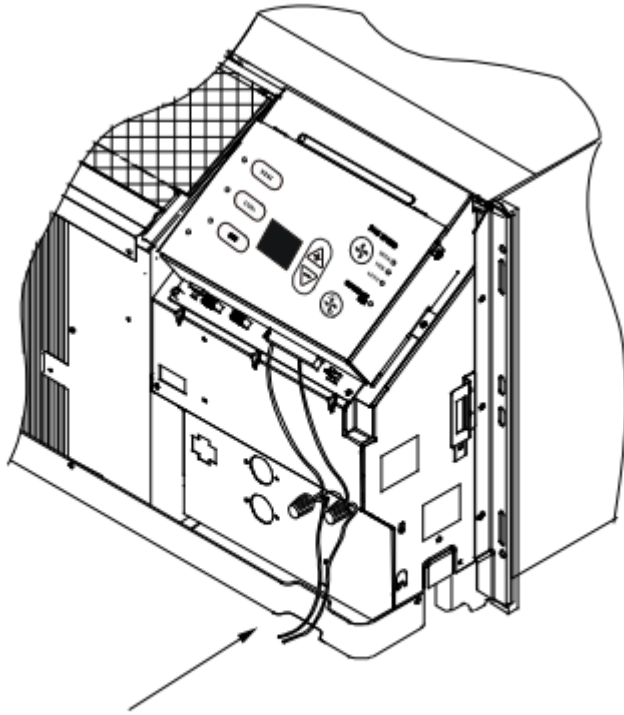
Maximum Wire Length	
Wire Size (AWG)	Maximum Length Allowed
#24	400 ft
#22	600 ft
#20	900 ft
#18	1500 ft
#16	2000 ft

Table 3 - Maximum Wire Length for Front Desk Switch



Front Desk Switch Wiring Schematic





No holes are permitted in chassis basepan or wallsleeve when routing low voltage wire. Route the low voltage wires through the indentation on the front of the basepan.

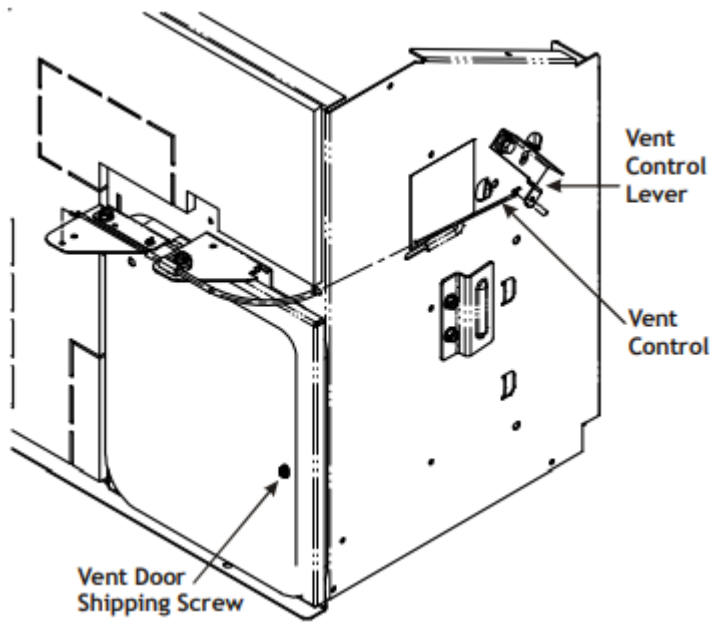
Low Voltage Wires Routing

VENT CONTROL - FOR STANDARD PTAC MODELS ONLY

The vent control allows outside air to be drawn into the conditioned area. This outside air can provide ventilation when the blower is operating, but it will increase the heating or cooling load and operating costs.

To obtain access to the vent control:

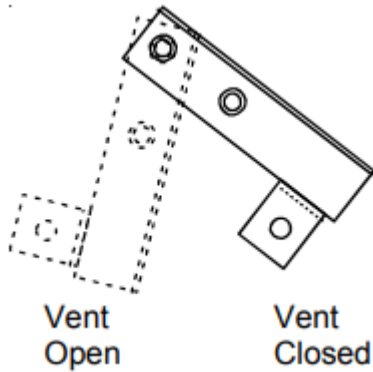
1. Remove the cabinet front (see Front Removal).
2. Remove the shipping screw (if installed) from the vent door.
3. Remove the label (if present) from over the vent control lever on the left side of the chassis. Remove the vent door shipping screw.



Vent Control Lever

For DigiAIR (Fresh Air Solution) kit models, refer to IO-900*.

4. Rotate the vent control lever to either open or close the damper.



Vent Door Lever Positions

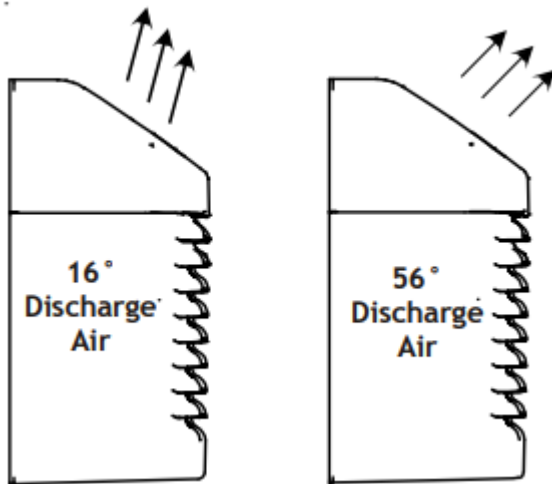
Hydronic Heat Installations

To avoid the risk of freezing the steam or water coil during prolonged shut down periods, the vent door must be left closed when the outdoor temperature might fall below freezing.

AIR DISCHARGE GRILLE

The discharge grille can be adjusted to expel air at either a 16° or 56° angle.





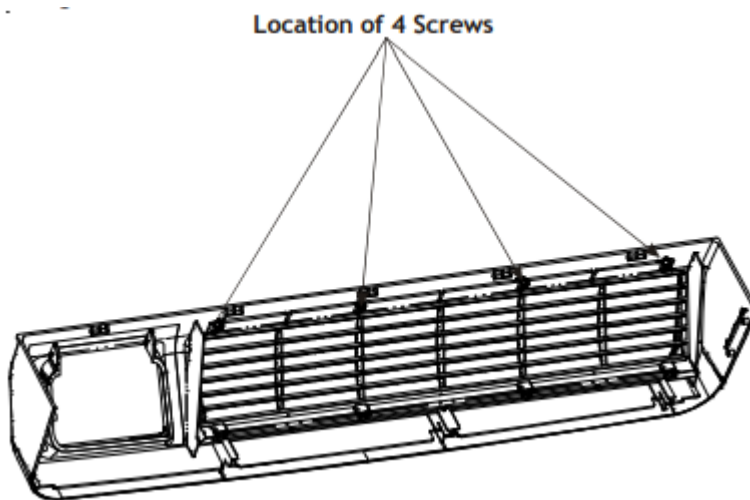
Discharge Grille Orientation Options

Use the following procedure to change the angle of the discharge air flow:

1. Remove the front cabinet (see Front Removal).
2. Position the front so that the backside is accessible.

Discharge Air Flow

3. Remove the four (4) screws which secure the discharge air grille to the cabinet front.



Discharge Air Flow Grille Removal

4. Rotate the grille 180° clockwise.
5. Reinstall the screws securing the discharge air grille to the cabinet front. Reinstall the cabinet front on the unit.

REMOTE THERMOSTAT

To operate this unit with a “manufacturer-approved” remote thermostat, configure the control to be operated by the remote thermostat. Enter configuration mode C1 and then select option Code L5

(see Configuration Settings in back of manual). When in the remote mode, the unit will only respond to the thermostat inputs (terminal strip positions GL (or GH), W2, Y/W1, and B* shown in “Control Board User Inputs” illustration). NOTE: Once configuration C1 with option code L5 has been selected, the control touchpad will no longer accept inputs other than configuration and diagnostics modes. The room occupant must operate the unit at the remote mounted thermostat.

NOTE: In remote mode, the 3-minute compressor time delay, the random restart feature and the freeze protection feature are all active (see Unit Features section).

THERMOSTAT LOCATION

This unit is designed to be operated with remote wall mounted thermostats. For further information on thermostats approved for use with this unit, contact your sales representative.

For best performance results, the thermostat should be located approximately five feet above the floor on a vibration free, inside wall in an area with good air circulation.

Do not install the thermostat where it may be affected by the following:

- Dead spots behind doors, in corners or under cabinets
- Hot or cold drafts from air ducts
- Radiant heat from the sun, appliances, or fireplaces
- Concealed pipes and chimneys
- Unheated (uncooled) areas behind the thermostat, such as an outside walls

Consult the instruction sheet packaged with the thermostat for further details on mounting and operation.

REMOTE THERMOSTAT OPERATION

Approved thermostats vary slightly in construction and, with few exceptions, are operated similarly. The following operational description pertains to approved nonprogrammable thermostats that energize G in Heat and Cool mode.

HEAT/OFF/COOL Switch

- OFF - cooling and heating functions are defeated.
- HEAT - the selected room temperature is maintained by cycling either in the heat pump mode or electric strip heat. A PTH unit is switched from the heat pump mode to electric strip heat when the coil temperature is 20°F or when the heat pump cannot keep up with the heating load and a two stage thermostat is used.
- COOL - the selected room temperature is maintained by cycling the air conditioner.

Table 4 summarizes the thermostat input combinations and the respective unit functions. The following wiring schematic illustrations show wiring schematics for heat pump and straight cool units with electric resistance heat, respectively.

Unit Function		Heat Pump Thermostat Input	Electric Heat Thermostat Input
		R Terminal to:	R Terminal to:
OFF		NONE	NONE
HEAT	Stage 1	GL*, Y/W1, B**, O	GL* Y/W1, B**, or GL*, W2, O
	Stage 2	GL*, W2	n/a
COOL		GL*, Y/W1, B**, O	GL*, Y/W1

*or GH depending on speed required

**If configured, B and O can be used interchangeably.

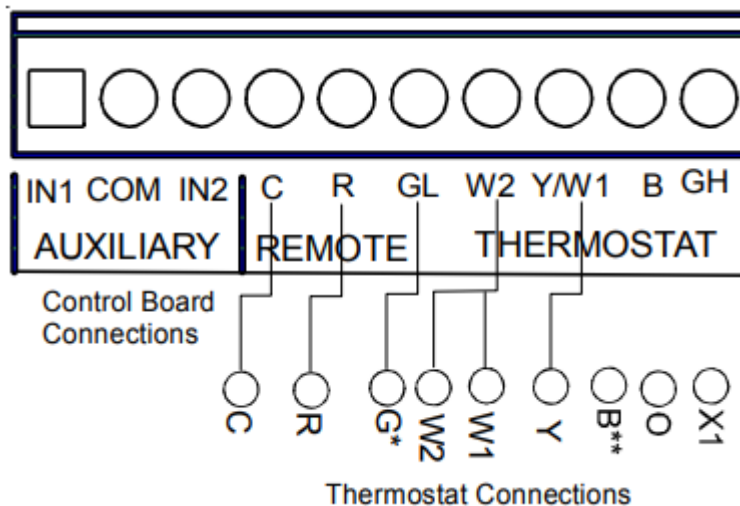
Table 4 - Remote Control Inputs

NOTE: The PTAC Wire Harness Kit (PWHK01G70) is required for remote thermostat options.

ADDITIONAL NOTES:

1. For heat pump operation, a room thermostat with a B (heating change over) terminal or an O terminal (cooling change over) is required. This will mean that some “auto changeover” thermostats cannot be used, as many of them either do not have a B terminal, or else energize the B terminal continuously when in the “auto” position.
2. Additional wiring should be run for future changeover to Heat Pump or thermostat options.
3. Run 6 to 8 wires during initial installation. Tape or cap off any unused wires.

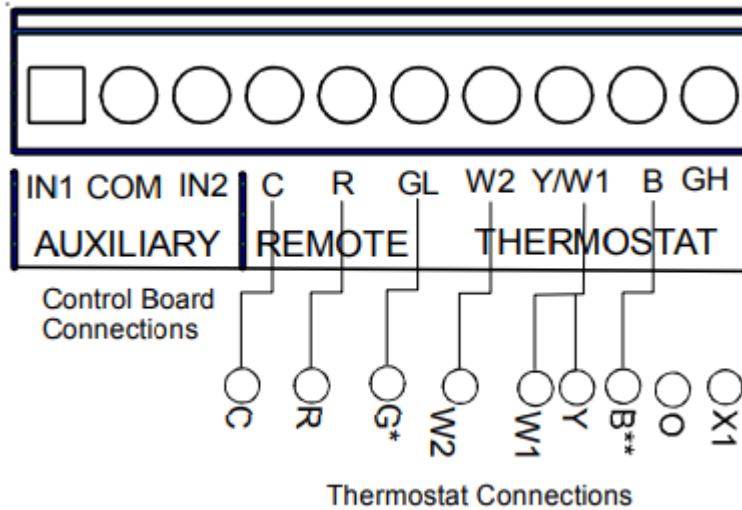
NOTE: Using a thermostat with an O terminal will require that the 7 button with display control be configured (see Configuration Settings).



Wiring Schematic for Straight Cool Unit

*NOTE: For high speed fan operation, connect “G” to “GH”.





Wiring Schematic for Remote Heat Pump

*NOTE: For high speed fan operation, connect “G” to “GH”.

Table 5 shows the maximum wire length and corresponding gage size for installation of a remote thermostat.

Maximum Wire Length	
Wire Size (AWG)	Maximum Length Allowed
#24	400 ft
#22	600 ft
#20	900 ft
#18	1500 ft
#16	2000 ft

Table 5 - Maximum Wire Length for Remote Control Connection

MAINTENANCE AND CLEANING

MONTHLY MAINTENANCE AND CLEANING

Intake Air Filters

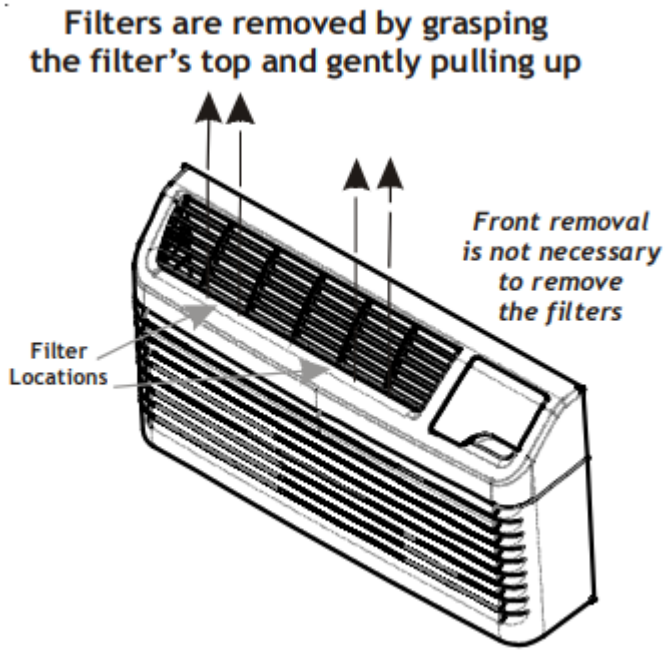
To properly maintain the operational performance of your PTAC unit, it is extremely important that the inlet air filters be cleaned once per month or more often if operated in dusty or dirty locations or conditions. The intake air filters are constructed of durable polypropylene. The “air intake” air filters can be easily inserted into the cabinet front using the cabinet filter guides. Before cleaning the intake filter, turn the unit off by setting the mode switch to the OFF position. Filter should be cleaned as required.

The following procedure is used to remove the intake filters:



1. Grasp each filter by its molded handle, located on the front edge of the front, below the discharge grill.
2. Pull the filter straight up and remove.
3. Clean filter with vacuum or with running water.

Reverse this procedure to reinstall the filters.

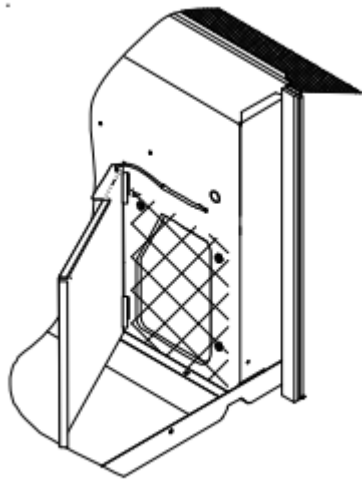


Intake Filter Removal

Vent Screen

Before cleaning the vent screen, disconnect power to the unit by unplugging the power cord at the wall outlet or subbase, or disconnect power at the fuse box or circuit breaker. If unit is operated with vent door closed, the vent screen does not need to be cleaned.

1. Remove the cabinet front as described in Front Removal.
2. Remove the six screws securing the chassis to the wall sleeve.
3. Slide the chassis out of the wall sleeve far enough so that the vent screen is accessible.
4. Clean the vent screen, slide the chassis back into the wall sleeve, secure it in place with six screws and reinstall the front cabinet.



Vent - (Left Side Unit)

Cabinet Front

The cabinet front and discharge air grille can be cleaned with a water dampened cloth. Under no circumstances should hydrocarbon-based cleaners (e.g. acetone, benzene, naphtha gasoline, etc.) or ammonia based cleaners be used to clean the front or air grilles. Use care when cleaning the control area.

YEARLY MAINTENANCE AND CLEANING

NOTE: Use a mild biodegradable detergent such as Simple Green™ when cleaning the unit. Special care must be taken to protect the unit's control board and other electrical components from getting any water on them while cleaning. The use of harsh or caustic cleaning agents or materials such as bleach or coil cleaners that are not designed for PTAC products will cause damage or deterioration of the aluminum fin or coil material and is not recommended. Care must be taken not to bend the aluminum fin stock.

Routine Scheduled Maintenance

To achieve continuing top performance and high efficiency, establish a "once a year" cleaning/inspection schedule for the unit. Take the unit out of the sleeve and thoroughly clean and rinse. Be sure to include in the yearly cleaning the evaporator coils, and condenser coils, basepan, and drain passages. Scheduled maintenance can be accomplished by either qualified local maintenance staff or by an authorized servicer. They must follow the instructions described in this manual.

Adverse Operating Conditions Maintenance

Units operating in dusty or corrosive locations; i.e. dusty construction site or sea coast, must be cleaned more often. A minimum of four (4) times a year will maintain proper operational conditions and protect unit components.

Wall Sleeve

Clean the wall sleeve while cleaning the unit. The caulking around the sleeve should be checked to make sure that any potential air and water openings around the sleeve are properly sealed. The wall sleeve's level should also be rechecked. Proper leveling for most installations are a ¼ bubble tilt to the outside and level from right to left. Contact your sales person for detailed maintenance or cleaning instructions.

Basepan and Condenser Coil

Before cleaning the basepan and condenser coil, turn OFF unit mode switch and disconnect power to the unit. To disconnect power, either unplug the power cord at the wall outlet or subbase, or disconnect power at the fuse box or circuit breaker.

1. Create a water-tight seal by tightly covering the entire control panel area and fan motor with plastic. Creating this seal prevents water from entering the control area or the fan motor and damaging the unit.
2. Spray condenser coil and basepan down with water. Next spray a mild biodegradable detergent such as Simple Green™ onto the condenser coil and basepan. Let set for five (5) minutes.
3. Rinse condenser coil and basepan with water again. NOTE: Ensure water pressure is no higher than that of an ordinary garden hose and the water temperature no higher than 120°F.
4. Tilt the non-compressor side of the unit up no higher than 45 degrees and allow water to drain out the other side of the unit.
5. Remove excess water left in the basepan by wiping the basepan with a dry cloth.
6. Remove the water-tight seal from the motor and control panel area.
7. Reinstall unit back into wall sleeve.
8. Allow unit to dry for 24 hours before reapplying power. When power is reapplied test unit for proper operation.
9. Place a non-acidic algaecide in the basepan to inhibit bacteria growth. Ensure the algaecide is compatible with wet coil operation and is not corrosive to the coil.

Clearance Check

Clearances around the unit should also be checked to make sure that the intake air and discharge air paths have not become blocked or restricted. A minimum of eight inches clearance is needed from unit to furniture , beds, or other objects for proper operation. Restricted discharge or intake air will reduce the unit's operational performance. In severe airflow restrictions damage can occur to unit components such as the compressor, electric heater or fan motor.

OBTAINING SERVICE

In the event this unit requires repair or servicing beyond what is covered in this manual, contact an authorized service organization.

To obtain an authorized servicer, contact your sales representative or agency.

NORMAL OPERATING SOUNDS AND CONDITIONS

Water trickling sounds

Water is picked up and distributed over the coil. This improves the efficiency and helps with water removal.

Water dripping

Water will collect in the base pan during high humidity days. This can cause overflow and drip from the outside of the unit.

Air sounds

The fan cycle switch sets the operational mode of the fan in the ON position. The fan will run continuously whenever power is applied in this mode. In the AUTO position, the fan will cycle on and off with the compressor or electric heater.

Starting delay



You may notice a few minutes delay in the starting if you try to restart the unit too soon after turning it off or if you adjust the thermostat right after the compressor has shut off. This is due to a built in delay to protect the compressor.


CONFIGURATION SETTINGS

7 BUTTON TOUCH PAD WITH DISPLAY

The control can be configured to operate a wide range of options. The options listed below with the * are the factory default settings. If these are acceptable, then the unit does not require any additional configuration and is fully operable. To configure the unit, first select the configuration feature code setting and then an option code to change from the factory default setting.

To enter configuration feature mode:

1. Press and hold the up and down  arrow keys at the same time and press the OFF 

key twice within a two (2) second time frame then release the  . The display will indicate = = if the security code (configuration code uL) has been previously set. The display alternates between



= = and 00. Use the up and down arrow keys to change 00 to the previously selected security code.

NOTE: The control will not proceed to the next step until the correct code is entered. The security code step will be skipped if no code has been set or if it has been set back to 00.



The display will indicate - -. Press the HEAT key one time.

The display will then alternate between C1 and 0.



To select a different configuration feature code, press the HEAT key until the desired configuration comes up. To scroll to a previously viewed configuration codes press the COOL



key.

Once you have scrolled to the correct feature, then to select the option code for your desired



configuration, press either the up or down key to scroll through the options of the selected feature code.

To exit configuration mode:



1. Press the OFF key. Configuration feature mode will also exit if no keys are pressed for a period of two (2) minutes.


DIAGNOSTIC MAINTENANCE & STATUS REPORT

The Diagnostic Maintenance & Status Report provides detailed information on PTAC control operation and operational status including present modes, failures, airflow restriction warnings, operating temperatures, and past failures. The lower right hand dot on the center display flashes in this mode. In some cases the green LED located in the lower left hand corner of the touchpad below the OFF key will also be lit. This Green LED "Status Light" only illuminates if there is an status code that has been activated and should be reviewed. In most cases, this light indicates that the indoor room filter is dirty should be cleaned or replaced. NOTE: Dirty filters cause the unit to consume more energy than normally needed to condition a room. Once the filter has been cleaned or replaced, the LED should go out. If the LED is still illuminated after the filter has been cleaned, activate the Diagnostic and Status mode to view any active codes. The unit may need additional cleaning or maintenance of the evaporator or condenser coils. Please perform this step before calling a servicer. A servicer should be called only if cleaning the filter or coils does not clear the status code or the code indicates that servicer should be called.

DIAGNOSTIC STATUS REPORT MODE.





To enter Diagnostic Status Report mode, press and hold the up and down arrows and, while holding, quickly press the COOL key  twice.


ACTIVE FAILURES.

- If there are no active failures or lockouts, the display will show a double dash, “- -”. If there is a code listed, see the unit “Diagnostic Codes” chart for a list of definitions.

OPERATING TEMPERATURES.

- If not in Diagnostic Status Report Mode, enter as instructed above and press the Fan


Speed  key.

- If already in Diagnostic Status Report mode, press the Fan Speed  key. The display will show the temperature of the desired set point, SP; the temperature at the wireless thermostat, rL; the indoor ambient temperature behind the filter, IA; the indoor coil temperature, IC; the indoor discharge air temperature, Id; the outdoor coil temperature, OC; the outdoor ambient temperature, OA; and the spare probe temperature, IH. If any of the probes are not populated the display will show the corresponding failure code.

PAST FAILURE LOG


- If not in Diagnostic Status Report Mode, enter as instructed above and press the Fan

Speed  key twice.

- If already in Diagnostic Status Report mode, press the Fan Speed  key. While the display is showing operating temperatures, the last 10 failure codes active or past can be

requested by pressing the Fan Speed  key again. The codes are displayed last entry first followed subsequently by each preceding code.

Note that modes and are also displayed in the normal control operation (see “Diagnostic Codes” chart).

To exit Diagnostic Status Report mode, press the OFF  key.

Warning

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.

