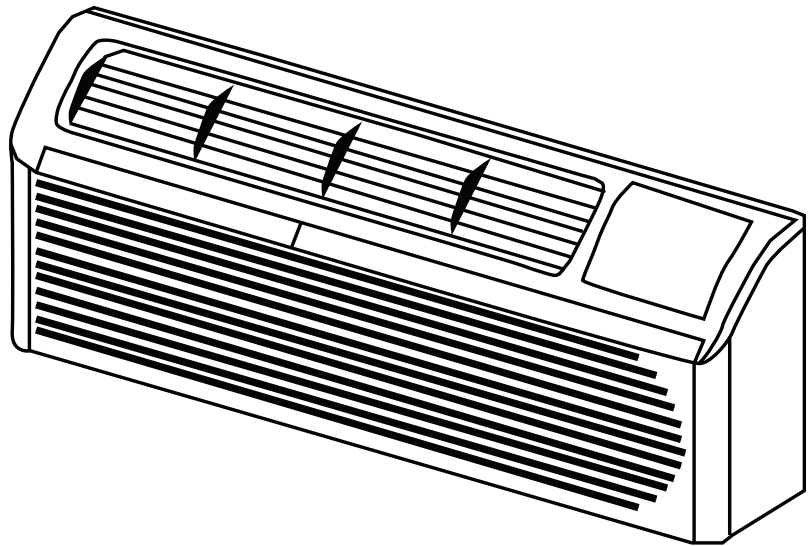




Installation, Operation, and Maintenance

ProSpace™ Packaged Terminal Air Conditioner (PTAC)



Models PTEF and PTHF

⚠ SAFETY WARNING

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



Introduction

The ProSpace™ Packaged Terminal Air Conditioners and heat pumps provide a high standard of quality in performance, workmanship, durability and appearance as they heat and cool the occupied air space year round.

This manual provides information for ease of installation, operation and maintenance. All models are designed for through-the-wall installation. Separate installation instructions are included with all accessory components.

General Information

Read this manual completely and carefully before starting any work. Write down the model and serial number on the space provided on the product registration card. The model and serial number can be located on the serial number plate attached to the unit. These numbers are required for any service work.

Important: *Ensure that this manual is left with the owner for future reference. Observe all local codes and ordinances.*

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.



NOTICE Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including

industry replacements for CFCs such as HCFCs and HFCs.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified. The Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury. Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Material Safety Data Sheets (MSDS)/Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate MSDS/SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

Safety Precautions

Before installing and operating the Trane ProSpace unit, observe the following safety precautions.

DANGER! Avoid Serious Injury or Death

- Do not attempt to install air conditioner by yourself.
- This air conditioner contains no user-serviceable parts. Always call an authorized Trane service representative for repairs.
- When moving the air conditioner, always call an authorized Trane service representative for disconnection and re-installation.
- Do not insert or place fingers or objects into the air discharge area in the unit.

- Do not start or stop the air conditioner by unplugging the power cord or turning off the power at the electrical box.
- Do not cut or damage the power cord.
- If the power cord is damaged it should only be replaced by an authorized Trane service representative.
- In the event of a malfunction (sparks, burning smell, etc.) immediately stop the operation, disconnect the power cord, and call an authorized Trane service representative.
- Do not operate the air conditioners with wet hands.
- Do not pull on the power cord.
- Do not drink any water that is drained from the air conditioners.

CAUTION! Avoid Injury or Damage to the Unit or Other Property

- Provide occasional ventilation during use. Do not direct airflow at fireplaces or other heat related sources as this could cause flare ups or make units run excessively.
- Do not place containers containing water on unit.
- Turn off the air conditioner at the power source when it will not be used for an extended period of time.
- Periodically check the condition of the unit's installation base for any damage.
- Do not apply heavy pressure to the radiator fins of the units.
- Operate the unit with air filters in place.
- Do not block or cover the intake grille, discharge area and outlet ports.
- Ensure that any electrical/electronic equipment is one yard away from the unit.
- Do not use or store flammable gases near the unit.

WARNINGS! Installation

- Carefully read the installation section before beginning.
- Follow all manual content as shown.
- Observe all local, state, and national electrical codes.
- Use qualified, licensed personnel during installation and setup.
- Observe all Cautions, Warnings, and Notices provided in this manual.

Copyright

This document and the information in it are the property of Trane, and may not be used or reproduced in whole or in part without written permission. Trane



reserves the right to revise this publication at any time, and to make changes to its content without obligation to notify any person of such revision or change.

Trademarks

All trademarks referenced in this document are the trademarks of their respective owners.



Table of Contents

- Model Number Description 7
- Unit Features 8
 - Intelligence..... 8
 - Memory..... 8
 - Quiet Design 8
 - Random Compressor Restart 8
 - Compressor Protection..... 8
 - Automatic Room Freeze Protection..... 8
 - Automatic Quick Warm-Up (Heat Pump Models Only)..... 8
 - Dual-8 display and LED Display 9
 - Displays..... 9
 - Fan Configuration Optimization for Selected Application 9
 - Other Unit Configurations 9
- Electrical..... 11
 - Power Connection Options11
 - All Units11
 - Grounding.....11
 - Voltage Supply 12
 - Cord/Connected Units 12
 - Power Cord Protection..... 12
- Installation..... 13
 - Trane Wall Sleeve and Grille 13
 - Considerations for Use of Existing Sleeves 13
 - Installing the Chassis Into Wall Sleeve 15
- System Configuration 17
 - Adjusting Air Direction- Only for Duct Installations..... 17
 - Dip Switches 18
 - Keypad Configuration 19
- Auxillary Controls 21
 - Wiring the Wall Thermostat..... 21
 - Energy Management Input (Front Desk Control) 23
 - Intelligent Self-Checking Control 23
- Operation..... 24
 - Control Buttons and Functions 24
 - Operating the Remote Control..... 24
- Care and Cleaning 27



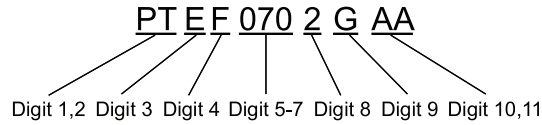
Table of Contents

Front Panel and Case.....	27
Outdoor Coil	27
Base Pan	27
Air Filter	27
Troubleshooting	29



Model Number Description

Use the following to determine the correct model number.



- **Digit 1, 2; Product Family**
 - PT = Packaged Terminal Unit
- **Digit 3; Heating Methods**
 - E = Cooling with Electric Heat
 - H = Heat Pump with Electric Heat
- **Digit 4; Development Sequence**
 - F
- **Digit 5 through 7; Size and Cooling**
 - 070 = 7,000 Btu
 - 090 = 9,000 Btu
 - 120 = 12,000 Btu
 - 150 = 15,000 Btu
- **Digit 8; Electrical Voltage**
 - 1 = 208/230 Vac
 - 2 = 265 Vac
- **Digit 9; Electric Heat Size**
 - G = Maximum of 3.5 kW
 - H = Maximum of 5.0 kW
- **Digit 10, 11; Design Sequence**
 - AA = First
 - AB = Second



Unit Features

This unit has many features that are different from those found on standard PTAC models. The owner should become familiar with these features in order to fully understand the operation and capabilities of the unit:

Intelligence

The unit has an on board computer which utilizes real-time diagnostics to prolong the life of the unit. There is an LED indicator on the control board, behind the front panel, that flashes an error code if the unit detects a faulty condition. In many situations, the unit automatically clears the fault condition and continues operating with no interruption. However, in some cases, the condition cannot be cleared and the unit will require servicing. In those situations, an Fx failure mode displays on the digital display.

Note: Refer to the diagnostic codes in the section, *"Intelligent Self-Checking Control," p. 23.*

Memory

In the event there is a power lost, all of the control settings (Setpoint, Mode, Fan Speed, ON/OFF and Configuration) are retained in memory. After power is restored, the unit starts back up in the previous mode (and configuration) prior to a power loss.

Quiet Design

The ProSpace has two (2) fan motors and a tangential blower wheel for optimum quietness. The indoor fan always runs, at a minimum of 10 seconds, before the compressor in order to reduce the sound of the compressor starting.

Random Compressor Restart

The compressor is equipped with a 2-minute, 45 second to 3-minute 15 second random restart delay feature. This helps to prevent power surges after a power outage (for example, when many PTACs start at the same time). Whenever the unit is plugged in, or when power has been restarted, a random compressor restart occurs to help avoid power surges.

Compressor Protection

The ProSpace has a random start-up delay of three (3) minutes on the compressor, with a minimum compressor run time of three (3) minutes, to prevent short cycling of the compressor and to maximize its life.

Automatic Room Freeze Protection

This protection feature automatically ensures the indoor temperature does not fall below freezing. When the PTAC is configured for freeze protection (the default condition), the power is supplied to the unit, and if the unit senses a temperature below 40°F, the fan motor and electric heater turn ON and warms the room to 50°F (10°C). The unit can be configured to have freeze protection turned OFF.

Automatic Quick Warm-Up (Heat Pump Models Only)

If the room temperature falls to 5°F (-15°C) below the setpoint temperature, the reverse cycle heat is shut OFF and the electric strip heat is turned ON for one (1) cycle, until room temperature rises.

Dual-8 display and LED Display

The ProSpace has two (2) 8-segment nixie tubes and the following 13 LED indicators:

- High
- Med
- Low
- Auto
- Cool
- Fan
- Heat
- On
- Off
- Setpoint
- Indoor
- Status
- Timer

Displays

- **Mode Indicator Display:** when the air conditioner operates in a certain mode, the corresponding mode indicator is lit.
- **ON/OFF Indicator:** displays in green when the controller is ON and red when controller is OFF.
- **Fan Speed Display:** when the air conditioner operates at HIGH, MED, LOW, or AUTO fan speed, the corresponding indicator is lit.
- **Dual-8 Display:** ambient temperature can be displayed in cooling and heating modes by changing settings using the keypad.

Note: Under cooling or heating mode, the Dual-8 displays the set temperature and (the Dual-8 displays indoor ambient temperature under fan mode.

- **Display Data with 3-bits:** the Dual-8 displays a ten digit + the unit digit at first and then displays BLANK + hundred digit.

Fan Configuration Optimization for Selected Application

The unit can be optimized for selected applications by configuring the fan to run in Continuous mode or cycle ON/OFF with the compressor and electric heater (can be different for both heating and cooling modes). In cycle mode, the fan continues to run after the compressor or electric heater stops in order to blow off any residual heat or cool left on coil.

Other Unit Configurations

- Display either Fahrenheit (F°) or Celsius (C°).
- Optimize the room temperature sensor reading to the exact application— one for cooling, one for drying, and one for heating (indoor temperature sensor biasing).
- Emergency Heat (for Heat Pump Only); disable the compressor during heating mode operation (heat only with Electric Heat).
- Configure the unit to display only the room temperature or setpoint during heating and cooling modes.
- Configure the unit to limit the controlling setpoint range. The display always shows the complete setpoint range, but the controlling setpoint is limited to the configured minimum/maximum setpoint selected.



Unit Features

- Energy Management (also referred to as Front Desk Control); an input is provided so that the unit can be manually disabled from a different location. If the unit detects 24 Vac on this input, it automatically turns itself OFF. If no voltage is detected on the input, the unit runs normally.
- Wall Thermostat Control; a wired wall thermostat can be connected to the unit. If so, the unit must be configured to disable the keypad.



Electrical

⚠ WARNING

Live Electrical Components!
 Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.
 When it is necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks.

Power Connection Options

Appropriate power cord accessory kit is determined by the voltage and the amperage of the branch circuit, based on the unit amperage requirements (for example, electric heater size). The unit ships without a power cord.

Note: Ensure the outlet matches the appropriate prong configuration on the plug. It should be within reach of the service cord. All wiring, including installation of the receptacle, must be in accordance with the NEC™ and all local codes, ordinances and regulations. National codes require the use of an arc fault or leakage current detection device on all 208/230V power cords. For 265V units, if power cord accessory option is selected, then the cord is only 18" long and must plug into the accessory electrical 265V sub-base.

All Units

Important: Follow NEC and local electrical codes when installing electrical supply wiring. The following is only shown as a sample.

Use recommended wire size (Table 1) and install a single-branch circuit. All units are designed to operate off only one (1) single branch circuit.

Note: Only use copper conductors. Branch circuit wire is single circuit from main box. AWG wire sizes are based on copper wire at a 140°F (60°C) temperature rating.

Table 1. Common Branch Circuit Wire Sizes

Nameplate Amps	AWG Wire Size
7.0 to 12	14
12.1 to 16	12
16.1 to 24	10

Grounding

For safety and protection, the unit is grounded through the service cord plug or through separate ground wire provided on hard wired units. Ensure that the branch circuit or general purpose outlet is grounded.



Voltage Supply

Check voltage supply at outlet. For satisfactory results, the voltage range must always be within the ranges specified on the data information plate. Power cord does not ship with the unit. The cord to order is determined by the unit voltage and the desired electric heat capacity.

Cord/Connected Units

The 250 Vac field supplied outlet must match the plug for standard 208/230V units and be within reach of the service cord.

Note: Do NOT use 30 amp cord with size 07 units.

Table 2. Electric Heater and Cord Information, PTEF07xxx and PTHF07xxx










Voltage	230 Vac		265 Vac	
Amps	15	20	15	20
Heater Size	2.5 kW	3.5 kW	2.5 kW	3.5 kW
Plug Layout				
NEMA Plug	6-15P	6-20P	7-15P	7-20P
Cord #	PWR00286	PWR00288	PWR00287	PWR00289

Table 3. Electric Heater and Cord Information, PTEF and PTHF Size 09, 12, and 15

Voltage	230 Vac			265 Vac		
Amps	15	20	30	15	20	30
Heater Size	2.5 kW	3.5 kW	5.0 kW	2.5 kW	3.5 kW	5.0 kW
Plug Layout						
NEMA Plug	6-15P	6-20P	6-30P	7-15P	7-20P	7-30P
Cord #	PWR00286	PWR00288	PWR00290	PWR00287	PWR00289	PWR00291

Power Cord Protection

Note: Power cord does not ship with the unit.

The power cord for 230/208V units provide protection from fire. The unit power automatically disconnects when unsafe conditions are detected. Power to the unit can be restored by pressing the reset button on plug head. Upon completion of unit installation for 230/208V models, an operational check should be performed using the TEST/RESET buttons on the plug head.

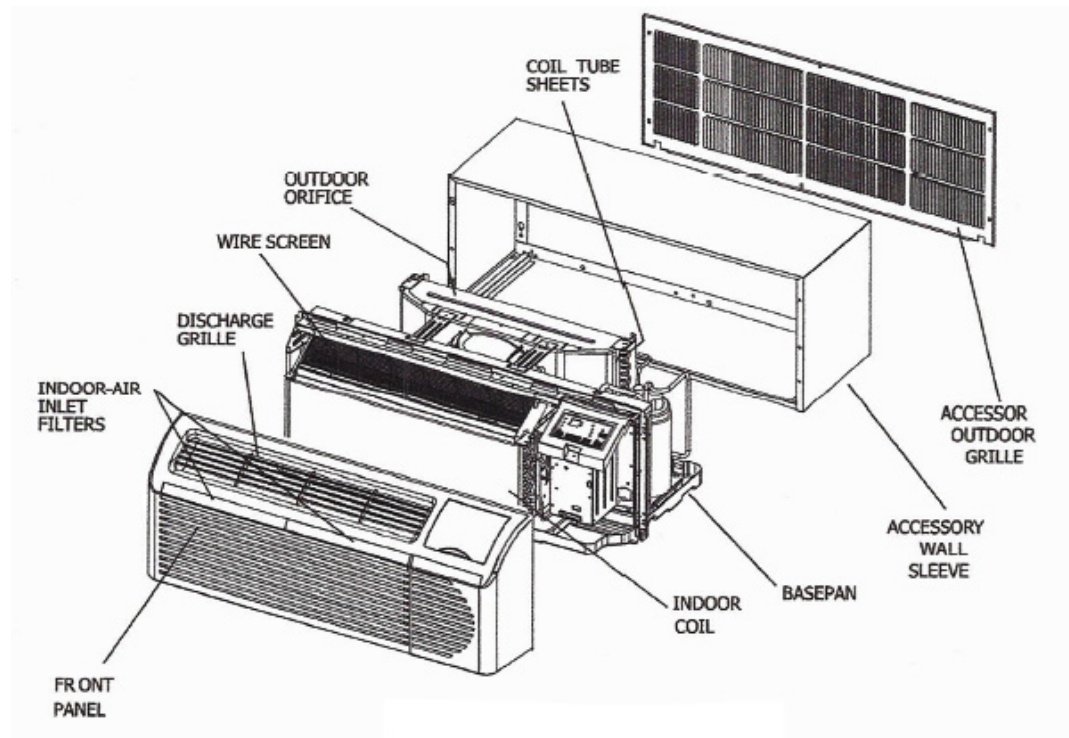
Note: Models with 265V do not incorporate this feature because they require use of an electrical sub-base accessory. Connection to a wall socket is not permitted for 265V units. All 265V units must be hard wired using the hard wire kit or make use of the plug-in receptacle in the standard sub-base.



Installation

Trane Wall Sleeve and Grille

The image below shows the typical unit components that are ordered and installed.



Important: Proper installation is the responsibility of the installer. Product failure due to improper installation is not covered under warranty.

To install the Trane Wall Sleeve and Grille, refer to the latest installation instructions, PTAC-SVN-028 and PTAC-SVN027.

Considerations for Use of Existing Sleeves

Important: For retrofit applications, foam seals on outdoor coil tube sheets must make a seal between the coil and the grill or loss of performance and premature damage to the major components can result.

⚠ WARNING

Live Electrical Components!

Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

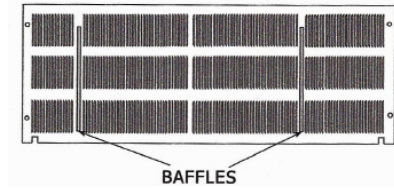
When it is necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks.

In applications when the unit is a replacement, it is recommended to use a Trane sleeve. This unit can be retrofitted to other manufacturers similar sleeves if outdoor unit airflow is not restricted or recirculated.

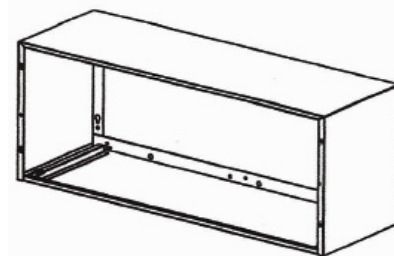
Note: Ensure the outdoor grille is installed on the sleeve. For any sleeve retrofit applications, be sure that the foam seals (factory installed on the tube sheets) provide a good seal between the grille and outdoor coil tube sheets. These foam seals provide a barrier that stops the inside air from mixing with the outside air (known as air recirculation).

Important: *Inspect the wall sleeve thoroughly prior to installation. The manufacturer does not assume responsibility for costs or damage due to defects in the sleeve or for improper installation.*

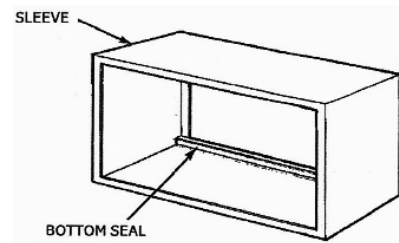
Remove any existing foam baffles installed on competitor's outdoor grille.



General Electric Metal Wall Sleeve; interchangeable with ProSpace wall sleeve.



General Electric Plastic Wall Sleeve; remove bottom seal from plastic sleeve.



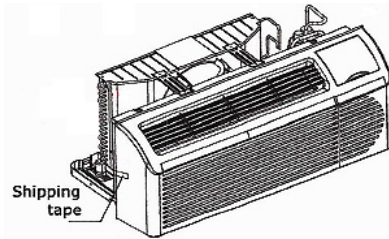
Installing the Chassis Into Wall Sleeve

NOTICE

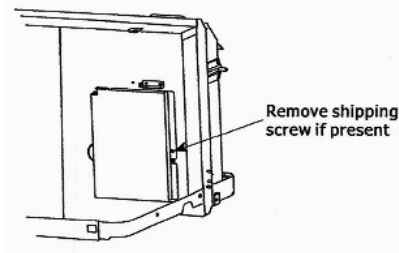
Equipment Damage!

Use spreader bars to prevent straps from damaging the unit. Install the bars between lifting straps, both underneath the unit and above the unit to prevent the straps from crushing the unit cabinet or damaging the finish.

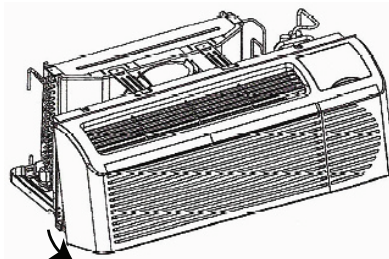
1. Carefully remove shipping tape from the front panel and vent door.



2. Remove shipping screw from the vent door, if present.



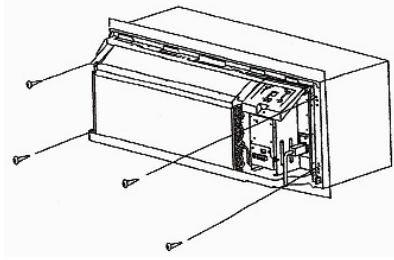
3. Remove front panel. Consider the following electrical guideline before sliding the unit back into the wall.
 - All units require a cord or a hard-wired kit to be added to complete electrical connection to the building. Follow the instructions provided with those accessories.



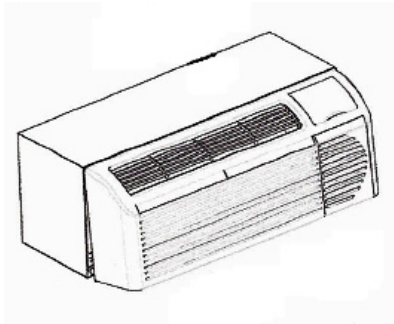


Installation

4. Lift unit level and slide unit into wall sleeve until foam seal rests firmly against front of wall sleeve.
5. Secure with four screws (supplied) through the unit flange holes.



6. Re-install front panel by first, hooking tabs over top rail of unit and then pushing in on the bottom of the front panel until it snaps into place.

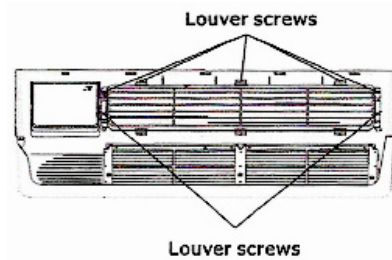




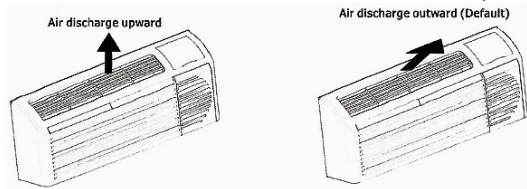
System Configuration

Adjusting Air Direction- Only for Duct Installations

1. Remove front panel.



2. Remove louver screws that hold the louver insert in place on the back side of the front panel.



3. Turn louver insert and rotate it 180°.
4. Replace louver insert.
5. Replace screws and the front panel.

Dip Switches

The auxiliary dip switch controls are located behind the front panel and through an opening below the control panel. To access, you must remove the front panel. The dip switches are accessible without opening the control box, but the unit must be powered OFF to effectively change functions.

Note: Factory settings for dip switches will be in the DOWN position. Refer to the following for the functionality of each dip switch position.

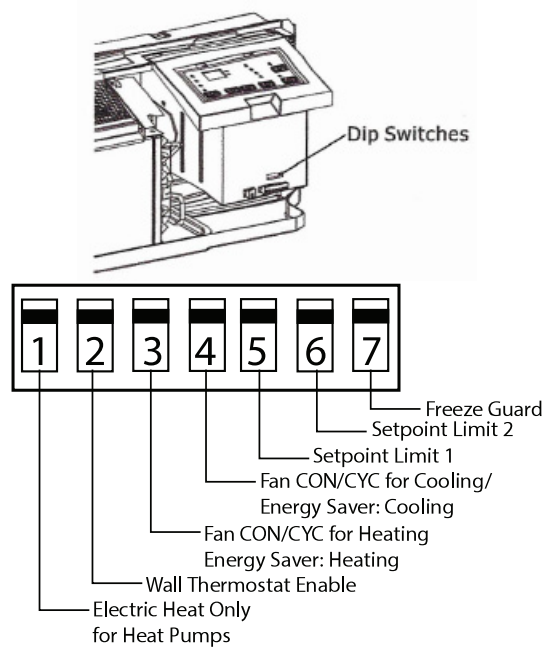


Table 4. Dip Switch Descriptions

Dip Switch Number	Up		Down		Default	Re- marks
1: Electric Heating Only/Emergency Heat. This setting is typically used for Emergency Heating.	Electric Heat Only		Heat Pump		Down	For only heat pump units.
2: Wall Thermostat Enable. A wired wall thermostat can be connected to the unit. The dip switch must be adjusted accordingly in order to allow the wall thermostat control of the unit. When unit is in wall thermostat mode, the control panel is disabled.	Wall Thermostat Enable		Control Panel Enable		Down	
3: Energy Saver Dip Switches. Allows the fan to operate in continuous or cycle mode while the unit is in heating or cooling mode. Dip Switch 3: Continuous and allows the fan to run continuously, circulating air even when the temperature setting has been satisfied. Dip Switch	Fan Continuous Run for Heating.		Fan Cycle for Heat		Down	
4: Energy Saver Dip Switches. 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. This is the most efficient mode for electrical usage.	Fan Cycle for Cool.		Fan Continuous Run for Cooling		Down	

Table 4. Dip Switch Descriptions (continued)

Dip Switch Number	Up		Down		Default	Re- marks
5/6: Setpoint Temperature Limits. Provides a range of temperature control.	Up/Up 68°F to 75°F (20°C to 24°C)	Up/ Down 63°F to 80°F (18°C to 28°C)	Down/ Up 65°F to 78°F (19°C to 26°C)	Down/ Down 61°F to 86°F (16°C to 30°C)	Up/Up 61°F to 86°F (16°C to 30°C)	Config. 5 and 6 combine to select set point range. When setpoint limit set, display always shows full range.
7: Room Freeze Protection. If the unit senses a room temperature below 40°F (4.44°C), the fan motor and electric strip heat turns ON and warms the room to 50°F (10°C). The fan stops a short time after the temperature is satisfied.	Freeze Guard Disable		Freeze Guard Enable		Down	

Keypad Configuration

The Trane ProSpace can be customized by configuring the keypad.

1. To enter the keypad configuration screen, first power up the unit.
2. Within the 30 seconds after power-up press and hold both the **fan speed + ▼** buttons for five (5) seconds.

Note: If waiting more than 30 seconds after power-up, you cannot access the keypad configuration. Power down and power up the unit again to restart the process.

3. To scroll through the available options, press and release the **fan speed** button to select the keypad configurations. The stored value displays.
4. To exit the configuration screen, press the **mode** button or after 30 seconds, the unit will automatically exit the configuration screen.
5. To modify configuration settings, press and release simultaneously, either the **Setpoint +▲** or **Setpoint + ▼** buttons. Choose from the following four (4) options:
 - **Fahrenheit/Celsius Display Switch;** changes between degrees Fahrenheit (F, default) and Celsius (C) on the display.
 - **Indoor Air Temperature Sensor Biasing for Cooling Mode;** adjusts the room air temperature reading when in cooling mode (not normally required).
 - **Indoor Air Temperature Sensor Biasing for Heating Mode;** adjusts the room air temperature reading when in heating mode (not normally required).
 - **Indoor Temperature Display;** changes between showing the setpoint or desired temperature during heating and cooling modes (SP, default) or displaying the actual room temperature during heating and cooling modes (AA).
 - Selecting SP displays the desired setpoint temperature during heating and cooling modes, regardless of what the actual temperature is in the room .
 - Selecting AA displays the room temperature during heating, cooling, and fan-only modes
 - Changing the mode button to either heating or cooling modes displays the setpoint for 10 seconds. After the 10 seconds, the room temperature displays.
 - Depressing the ON-OFF when the unit is OFF, and the last mode was either cooling or heating, the setpoint displays for 10 seconds before displaying the room temperature.
 - Depressing either ▲ or ▼ during heating and cooling mode displays the setpoint for 10



System Configuration

seconds before displaying the room temperature.

6. Press ▲ or ▼ to switch between **Emergency Auto Cooling Allowed** (displays as CA) and **Emergency Auto Cooling Rejected** (displays as CD).
7. When activating Auto Cooling Operation and room temperature reaches 85°F while the unit is in the **STOP** mode, the unit automatically starts in Air Conditioning Operation and shuts off when the room temperature reaches 80°F.



Auxillary Controls

Wiring the Wall Thermostat

⚠ WARNING

Live Electrical Components!

Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

When it is necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks.

NOTICE

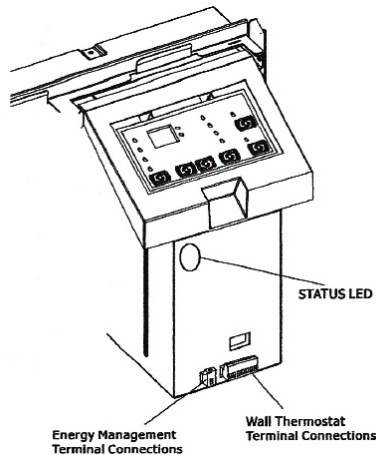
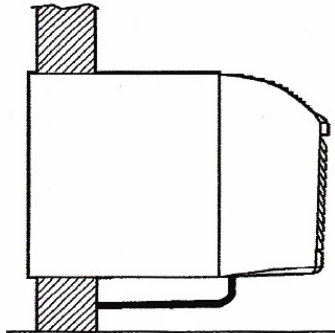
Equipment Damage!

Failure to follow instructions will result in premature failure of the unit.

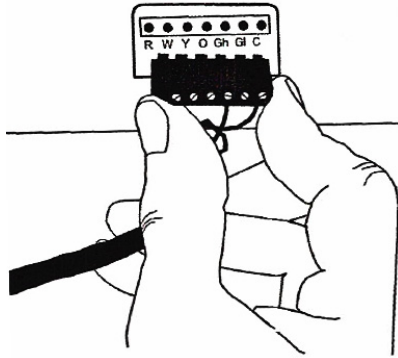
Improper wiring may damage unit electronics. Common busing is not permitted. Damage or erratic operation may result.

To wire the to the thermostat:

1. Check to be sure power to unit is disconnected.
2. Route the wire through the thermostat under the sleeve and behind the front panel as shown below.

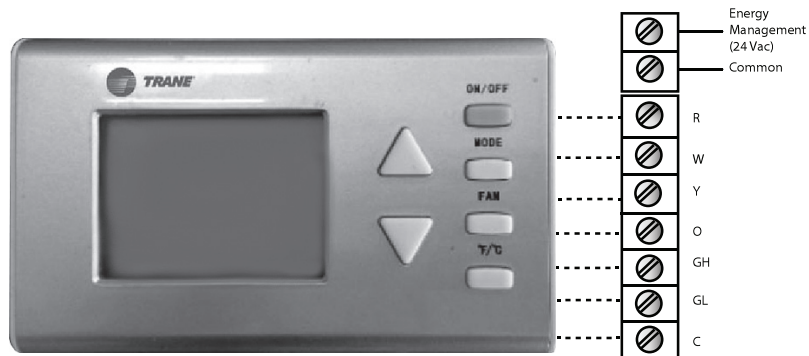


- Remove the terminal connector to simplify wiring.



- Connect wires from the thermostat to terminals on unit terminal connector.

Note: Thermostat wire is field supplied. Recommended wire gauge is 18 to 20 gauge, solid thermostat wire.



- R; 24 Vac
- W; Electric Heat
- Y; Compressor
- O; Reversing Valve (Heat Pump Connection Only)
- GH; High Fan
- GL; Low Fan
- C; Common (Typically for Digital Thermostats)

Note: Any incorrect input combinations are captured as thermostat wiring failures and will light the STATUS LED indicator on main board.

- Reinstall terminal connector.
- Ensure that unit is configured for wall thermostat enable.
- Replace control panel label with control panel guard.
- Power-up the unit.

General Notes:

- Anytime there is a second-stage call for heating from the wall thermostat,, the unit automatically switches over to electric heating for heat pump models.
- For thermostats with two (2) fan speed output (such as Low fan or Hi fan), the fan speed is determined by how the terminal connector is wired. When using Low fan speed, wire the GL output from the thermostat to GL on the terminal block. When using Hi fan speed, wire the GH output from the thermostat to GH on the terminal block.

Energy Management Input (Front Desk Control)

The controller can handle a switch signal from remote energy management input, called an EM signal or front desk control. The input must be 24 Vac. When the system receives a 24 Vac signal, it turns OFF the unit; otherwise it is in normal control. This function is disabled under Freeze Guard protection.

Intelligent Self-Checking Control

The PTAC has an on-board computer continuously checks key components of the unit to ensure they are operating properly. Under normal operation, the unit status indicator (STATUS, on main PCB), light is steadily ON. If there is a major problem, the unit shuts down and displays a diagnostic failure code on the control. If it is a minor error and the unit can correct it by itself, the diagnostic code is flashed on the status LED that is easily seen when the front panel is removed. Refer to the following table of diagnostic codes.

Table 5. Diagnostic Codes

Diagnostic Code	Code Description	Explanation
1	Indoor air temp sensor open or short.	An 8-segment display F1, STATUS light flashes once and then OFF 3 seconds, repeat. ^(a)
2	Indoor coil sensor open or short.	An 8-segment display F2, STATUS light flashes 2 times and then OFF 3 seconds, repeat.
3	Outdoor coil sensor open or short.	An 8-segment display F4, STATUS light flashes 3 times and then OFF 3 seconds, repeat.
4	Freeze guard protection.	An 8-segment display FP.
5	Indoor coil freeze protection.	The STATUS light flashes 5 times and then OFF 3 seconds, repeat.
6	Outdoor coil high temp protection.	The STATUS light flashes 6 times and then OFF 3 seconds, repeat.
7	Defrost (heat pump type).	The STATUS light flashes 7 times and then OFF 3 seconds, repeat.
8	Indoor coil high temp protection.	The STATUS light flashes 8 times and then OFF 3 seconds, repeat.
9	Thermostat wiring error.	The STATUS light flashes 9 times and then OFF 3 seconds, repeat.

^(a) When the status light is flashing, it is ON 1 second and then OFF 1 second.



Operation

The following sections describe the operation of the Trane ProSpace unit.

Control Buttons and Functions

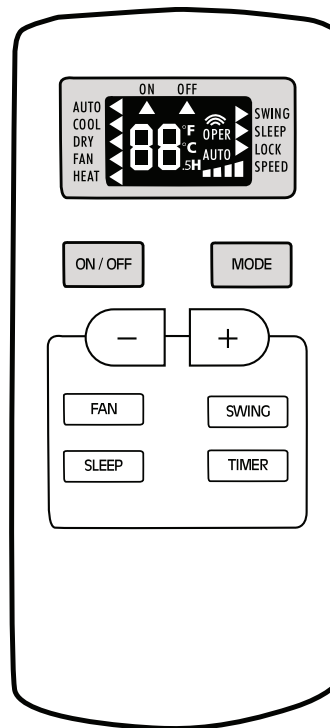
The section describes the buttons and functionality of the Trane ProSpace unit.

- **ON/OFF**; turns the unit ON or OFF.
- **Mode**; switches between Cool, Fan, Heat, or Dry (optional). Pressing this button when in OFF mode and the controller resumes to the operation status before power-off.
- **WARMER or COOLER**; the dual-8 nixie tube displays the indoor temperature for 15 seconds and then turns OFF. It is used to increase/decrease the temperature or timer setting.
- **Fan**; sets the High, Medium, Low or Auto fan speeds.
- **Timer**; sets the timer function by using either of the buttons on the control panel or by the remote controller.
 - **Timer ON function**; the timer can be set to ON when the unit is OFF. Setting range is between 0.5 hours to 24 hours. When timer ON setting is reached, the system stops and operates according to the set mode.
 - **Timer OFF function**; When the unit is off, timer OFF can be set. Setting range is between 0.5 hours, to 24 hours. When timer OFF setting is reached, the system stops operation.
 - **Timer Preview function**: use this function to preview the remaining time of timer.
- **Sleep function**; can only be set only using the remote controller.
- **Dry function**; the air conditioner can dehumidify and make the room air dry and comfortable.
- **Buzzer option**; when the controller is energized, or when a valid remote control signal or /button signal is received, the buzzer beeps.
- **Auto Fan Speed function**; can be automatically selected according to different modes or indoor temperature to achieve a higher comfort level.
- **Emergency Cooling Operation function**; When the indoor ambient temperature is 86°F (30°C), the unit starts cooling automatically. When the indoor ambient reaches 80.6°F (27°C), the unit stops operation.
- **F-code Remote Controller function**; optional.

Operating the Remote Control

The optional ProSpace remote control has many of the features that are accessible through the ProSpace front panel. Ensure that there are no obstructions between the receiver and the remote controller.

Important: Do not drop or throw the remote control. Do not spill any liquids in the remote control. Do not put the remote control directly into the sunlight or near hot surfaces.



- **ON / OFF**; press to turn **ON** the unit and press again to turn **OFF** the unit. When turning **ON / OFF** the unit, the **Timer** and **Sleep** functions are cancelled, but the pre-setting time is retained.
- **MODE**; press to cycle through the mode selections in the following order: *Cool to Dry to Fan to Heat*. In Heat mode, the initial value is 82°F (28°C) and in other modes, the initial value is 77°F (25°C).

Note: Heat Mode is only for cooling/heating units. If in Cooling Mode, there is no action taken when the unit receives a call for heating. **Blow-over heat:** when the unit is running in Heat Mode or Auto Heat Mode, the compressor and indoor fan running, to turn the unit off, the compressor, outdoor fan will stop running. The upper and lower guide boards rotate to a horizontal position, the indoor fan run at LOW FAN speed, and the 10 seconds later, the unit turns OFF.

- **FAN**; press to cycle through the fan speed selection in the following order: *AUTO to FAN 1 to FAN 2*. The speeds are represented on the remote as vertical bars increasing in size for each speed. When initializing the fan, the **AUTO** setting is default.
- **Note:** Only **LOW Fan Mode** can be selected in **DRY** mode. Pressing this key can not adjust the fan speed, but can send message to the unit.
- **SLEEP**; Press to select **SLEEP ON/OFF**. When powering the unit, the **SLEEP OFF** setting is default. After setup is complete, the signal for **SLEEP Mode** displays on the unit. While in **SLEEP Mode**, the **TIMER** setting can be adjusted. **SLEEP Mode** is not available in **FAN** and **AUTO Modes**. Once the unit is turned **OFF**, the **SLEEP Mode** is cancelled.
- **SWING**; not used.
- **TIMER**; in **SWITCH OFF** state, press this key to set the time for **AUTO SWITCH ON** state. The range of setting is between 0.5 hours to 24 hours. The characters **T-ON** and **H** flash for 5 seconds and within this 5-second flash, press this key once to complete the setting and send the message to the unit. If this setting is valid, the set time displays for 2 seconds before displaying the temperature message. During the 5-second flash, press **+** key to increase the time value and **-** to decrease the value. The values increase/decrease in increments of 0.5 hours with each press of the key. Pressing this key in rapid successions to increase/decrease the values will advance the increments quickly. The remote controller can increase the set time by 0.5 hours every 0.25 seconds. After energizing the unit, the default is **NO TIMER**



setting and the T-ON or H characters do not display. When the temperature display becomes constant, press this key again to display the remaining set time. The time values, T-ON and H, display constantly for 2 seconds. After 2 seconds, the preset temperature displays. Within these 2 seconds, press this key again to CANCEL the AUTO SWITCH ON and send the message. Pressing this key in SWITCH ON state allows the time to be set to AUTO SWITCH OFF. Press ON/OFF key to switch on the unit and CANCEL the AUTO SWITCH ON state.

Note: The +/- buttons are used to increase/decrease value settings for either time or temperature. Refer to the sub-sections below about how to use the +/- buttons to set temperature values.

- **+ Button;** press this button to set increased temperature values when unit is ON. Continuously press and hold this button for more than 2 seconds until °F (°C) displays. In AUTO Mode, the temperature can not be set up, but this button can send the signal. Temperature ranges are between 61°F and 86°F (16°C and 30°C).

Note: To switch between Fahrenheit and Celsius, press and hold the - and MODE keys simultaneously while in SWITCH OFF state.

- **- Button;** .press this button to set decreased temperature values when unit is ON. Continuously press and hold this button for two seconds to decrease the temperature value. The temperature adjustment is unavailable in AUTO Mode, but this button can send the signal.
- **LOCK;** to LOCK and UNLOCK (default) the keypad, press and hold the - or + and MODE keys simultaneously while in either SWITCH ON SWITCH OFF states. The unit show the LOCK icon when in LOCK Mode, in which case, the lock icon flashes three (3) times upon operation of any key. The LOCK icon does not display when the unit is in UNLOCK Mode.

Changing Batteries in the Remote Control

The remote requires two (2) AAA, 1.5V batteries.

1. From the back side of the remote, gently press down on the battery cover and slide it towards the bottom of the unit.
2. Remove the old batteries from the battery compartment.
3. Insert two (2) new batteries into the battery compartment. Ensure the batteries poles match the polarity when inserting them into the battery compartment: + to + and - to -.

Note: Only use the recommended battery type. If the remote has not been used for an extended period of time, check the expiration date on the batteries or check for battery leakage.

4. Slide the battery cover back onto the remote until the tab clicks.

BEST PRACTICE:

Check your local city/state for proper recycling procedures. A battery is an electrochemical device with the ability to convert chemical energy to electrical energy to provide power to electronic devices. Batteries contain heavy metals such as mercury, lead, cadmium, and nickel, which can contaminate the environment when batteries are improperly disposed of. When incinerated, certain metals might be released into the air or can concentrate in the ash produced by the combustion process. Batteries may produce the following potential problems or hazards:

- Pollute the lakes and streams as the metals vaporize into the air when burned
- Contribute to heavy metals that potentially may leach from solid waste landfills.
- Expose the environment and water to lead and acid.
- Contain strong corrosive acids. May cause burns or danger to eyes and skin.



Care and Cleaning

Periodic care and cleaning of the ProSpace unit is essential to keep it running efficiently.

Front Panel and Case

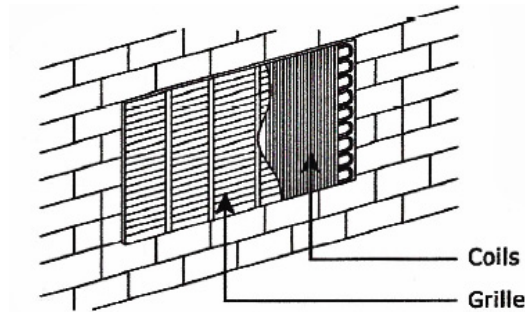
Turn unit off and disconnect power supply. To clean, use a soft brush, water, and a mild detergent. **DO NOT** use bleach or abrasives. Some commercial cleaners may damage the plastic parts.

Outdoor Coil

Important: Product failure due to improper care or lack of maintenance is not covered under warranty. Airflow restriction may cause damage to the unit.

Coil on outdoor side of unit should be checked regularly. Unit will need to be removed from its sleeve to inspect dirt build-up that can occur inside of the coil. If clogged with dirt or soot, the coil should be professionally cleaned.

Note: Never use a high-pressure sprayer on the coil.



Base Pan

Periodically check the base pan and clean if required.

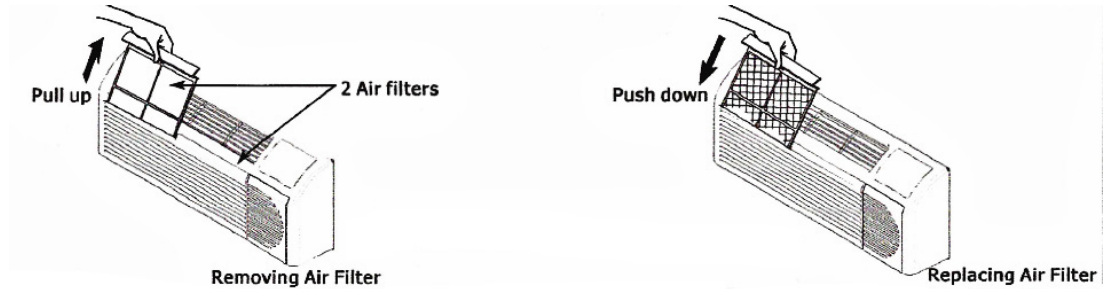
Air Filter

Important: Do not the 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 the efficiency of the unit. Airflow restriction may cause damage to unit.

This unit contains two (2) air filters. To maintain unit efficiency, clean the filters at least every 30 days (or sooner depending on application). Keeping filter clean:

- Decreases the cost of operation.
- Saves energy.
- Prevents a clogged indoor coil.
- Reduces the risk of premature component failure.

To clean the air filters, vacuum off any heavy soil and contaminates. Run water through the filters and then dry thoroughly before replacing them back into the unit.



Use the following checklist to ensure proper care of the ProSpace unit. Equipment operation should be checked and verified several times during each year.

- Clean both sides of outdoor coil. (Never use high pressure spray on coils.)
- Clean base pan and outdoor vent filter.
- Clean outdoor orifice and fan.
- Clean indoor coil. (Never use high pressure spray on coils.)
- Clean indoor fan, wire screen and front panel.
- Clean or install new indoor - air inlet filter(s).
- Clean wall sleeve and outdoor grille.
- Inspect cord and receptacle.
- Secure electrical connections.
- Ensure front panel is properly mounted and not damaged.
- Ensure wall sleeve is installed properly.
- Ensure heat and cool cycles operate properly.



Troubleshooting

Issue	Possible Causes	Resolution
Unit does not start.	<ul style="list-style-type: none"> • Unit may have become unplugged. • Fuse may be blown. • Circuit breaker may be tripped. • Unit may be OFF or in wall thermostat mode. • Unit may be in a protection or diagnostic failure mode. (Refer to the section, Intelligent Self-checking Control.) 	<ul style="list-style-type: none"> • Ensure that the plug is securely in the wall receptacle. • Replace the fuse.^(a) • Turn ON the unit. The unit shows green when ON and red when OFF. If the LED is not lit, there may be a problem with power or damage to the control.
Unit not cooling or heating the room.	<ul style="list-style-type: none"> • Unit air discharge section is blocked. • Temperature setting is not high or low enough. Setpoint limits may not allow the unit to heat or cool the room to the desired temperature. • Unit air filters are dirty. • Room is excessively hot or cold when unit is started. • Vent door left open. • Unit may be in a protection or diagnostic failure mode. (Refer to the section, Intelligent Self-checking Control.) • Compressor is in time delay mode. There is a protective time delay (approximately 3 seconds) on starting the compressor after a power outage (or restarting after it has been turned OFF) to prevent tripping of the compressor overload. 	<ul style="list-style-type: none"> • Ensure that curtains, blinds, or furniture are not restricting or blocking unit airflow. • Reset to a lower or higher temperature setting. • Remove and clean filters. • Allow a sufficient amount of time for the unit to heat or cool the room. Start heating/cooling early before outdoor temperatures, cooking heat, or gatherings of people begin to make the room uncomfortable. • Close the vent door. • Check the dip switch settings for the desired comfort level. • Wait approximately three (3) minutes for the compressor to start.
Unit display shows strange numbers/ characters.		<ul style="list-style-type: none"> • The unit may be in a diagnostic condition. (Refer to the section, Intelligent Self-checking Control.) • The unit may be set for Celsius instead of Fahrenheit.
Unit makes noises.		<ul style="list-style-type: none"> • Clicking, gurgling, and whooshing sounds are normal during the operation of the unit.
Water dripping outside.		<ul style="list-style-type: none"> • If a drain kit has not been installed, condensation run-off during very hot and humid weather is normal.^(b) • If a drain kit has been installed and is connected to a drain system, check gaskets and fitting around the drain for leaks or clogs.
Water dripping inside.	<ul style="list-style-type: none"> • Wall sleeve is not installed level. 	<ul style="list-style-type: none"> • Wall sleeve must be installed level for proper drainage of the condensation. Check that the installation is level and make any necessary adjustments.

Troubleshooting

Issue	Possible Causes	Resolution
Ice or frost forms on the indoor coil.	<ul style="list-style-type: none"> • Low outdoor temperature. • Dirty air filters. 	<ul style="list-style-type: none"> • When the outdoor temperature is approximately 55°F (12.7°C) or below, frost may form on the indoor coil when the unit is in cooling mode. Switch unit to FAN mode until the ice or frost melts. • Remove and clean the air filters.
Compressor protection.	<ul style="list-style-type: none"> • Power may have cycled so the compressor is in a restart protection mode. 	<ul style="list-style-type: none"> • Random Compressor Restart; whenever the unit is plugged in or the power has been restarted, a random compressor restart occurs. After a power outage, the compressor restarts after approximately three (3) minutes. • Compressor Protection; to prevent short cycling of the compressor, there is a random star-up delay of three (3) minutes and a minimum compressor runtime of three (3) minutes.

^(a) If the circuit breaker is tripped or the fuse has blown more than once, contact a qualified electrician.

^(b) If the unit is installed where condensation can drip into unwanted areas, install an accessory drain kit and connect it to the draining system.



Trane optimizes the performance of homes and buildings around the world. A business of Ingersoll Rand, the leader in creating and sustaining safe, comfortable and energy efficient environments, Trane offers a broad portfolio of advanced controls and HVAC systems, comprehensive building services, and parts. For more information, visit www.Trane.com.

Trane has a policy of continuous product and product data improvements and reserves the right to change design and specifications without notice.

©2015 Trane All rights reserved
PTAC-SVX002A-EN 12 Nov 2015
Supersedes (New)

We are committed to using environmentally
conscious print practices that reduce waste.

