# Installation and Operating Instructions
## Premier Series
**24 Volt**

**PFC-A24**
**PFC-A24-RS**

**PFC-M24**
**PFC-M24-RS**



**Increase temperature**

**Decrease temperature**

°F/°C

**Switches between °F and °C**

**Selects fan function**

HEAT/AUTO/COOL

**System Mode Switch**
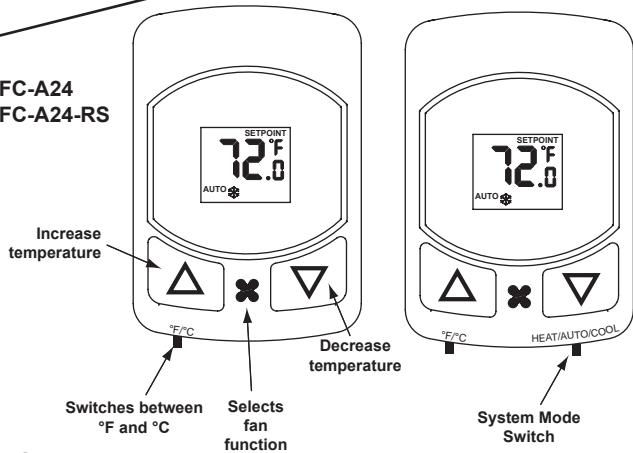
## Application:
This thermostat is a 24 volt heating and cooling digital temperature control designed to operate 2 or 4-pipe fan coil systems. Switching of load circuits is through relay contacts. Fan outputs can be configured to operate 3, 2 or single speed fan motors. The fan control also has configurations for user select fan speed with economy function, continuous fan or auto cycle fan. This thermostat operates on a single setpoint with automatic changeover from heating to cooling.

## Installation Notice:
This high performance digital thermostat is designed to provide many years of superior comfort control when properly installed and maintained. To achieve maximum performance, this device is designed to draw room air into itself continuously. Reasonable care must therefore be taken with regard to air quality at the time of installation as well as during periods of normal use, see operating conditions below.

## Operating Conditions:
The electronic mechanisms incorporated within this unit REQUIRE operating conditions similar to other electronic devices intended for INDOOR USE ONLY, such as would be acceptable for TV and similar household appliances. Relative humidity must be less than 95% and the atmosphere must be non-condensing. For operation in bathrooms, shower or pool areas, outdoor entry ways, greenhouses and similar applications, order the **"-k"** option. This product includes protection for coastal/tropical application, therefore it is suitable for use in high humidity environments. Air quality must be maintained FREE of heavy dust or debris which may infiltrate the interior of this device. Installation in any space which is unfinished or undergoing repainting or general rehabilitation is also considered product abuse. This device should be removed from service during any local construction activity.

## Cleaning:
This device incorporates a high impact polycarbonate enclosure which is easily cleaned with a dry cloth or vacuum brush. Occasional soiling may be cleaned with a soft cloth lightly dampened with water and/or mild cleaning solution. IN NO CASE should this device be directly sprayed with or exposed to free flowing liquids, including water, which could penetrate its interior.

FAILURE TO OBSERVE ANY OF THE ABOVE CONDITIONS OF USE WILL COMPLETELY VOID THE SUPPLIER WARRANTY.

### CAUTION
MAKE SURE UNIT IS PROPERLY CONNECTED. DAMAGE TO THE DIGITAL CONTROL CAN BE CAUSED BY MISWIRING, WHICH WILL VOID THE WARRANTY. FOR SAFETY REASONS ALWAYS USE WIRE NUTS ON ALL WIRE CONNECTIONS!!!

## Specifications:
**Temperature Monitor Range:** 32.2°F to 99.9°F (0.0°C to 37.7°C)
**Setpoint Range:** 60.0°F to 85.0°F (15.5°C to 29.5°C)
**\*Setpoint:** 72°F (22°C)
**\*Comfort Limits:** 65.0°F (18.5°C) cooling
         85.0°F (29.5°C) heating
**Display Format:** Liquid Crystal Display (LCD)
**Backlight:** EL blue green
**Sampling Rate:** Every 15 seconds
**Accuracy:** ± 1°F (0.5°C)
**Power Source:** 24VAC/DC (20 minimum to 32 maximum)
**Load Rating:** 1.5 amps per load circuit
**\*Fan Control: Selectable:** Auto cycle, Low, Medium, High
**Heat/Cool Control:** 1 heat and 1 cool circuit (see system function)
**\*Economy Limits:**
   Maintains room temperature between 60.0°F and 85.0°F
   (15.5°C and 29.5°C) when thermostat is in economy (ECON) mode
**\*Fan Purge Timer:** 30 seconds
**Anti-short Cycle:** 3 minute hold in no call state at all times
**\*Cycle Rate:** 8 cycles per hour
**\* Differential:** 0.4°F
**\* Display Mode:** Setpoint temperature
**\* System Function:** Heat and Cool
**\*See Field Programming Instructions**

### 4-PIPE FAN COIL, 2-PIPE ELECTRIC HEAT OR ELECTRONIC AQUASTAT INSTALLATION:
This device should be installed and serviced by a qualified technician. Junction box mounting is highly recommended.
1. ⚠ **Caution:** Make sure that power has been disconnected.
2. All wiring must comply with applicable codes and ordinances.
3. A thorough check-out of the system should be made after installation is complete.
4. If fan motor is larger than 1/4 HP and/or electric heaters are used for heating, additional power relays will be required
5. If retrofitting old thermostat, remove old thermostat from the junction box, carefully noting the wire connections on the old unit. Record wire color and terminal legends in spaces provided.

| Old thermostat wire function | Cable wire color |
|---|---|
| Power Feed | _____ |
| Common | _____ |
| Heat | _____ |
| Cool | _____ |
| Low Fan | _____ |
| Medium Fan | _____ |
| High Fan | _____ |

Disconnect old thermostat and remove any existing backplate or mounting plate.

6. Install the mounting bracket to the junction box with the two long mounting screws provided. See mounting detail to the right.
**Note:** If application involves a double ganged junction box, a backplate will be required for a complete installation.
Please consult your supplier.



Mounting Bracket

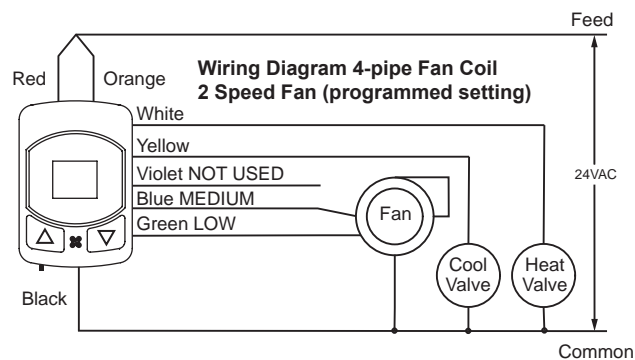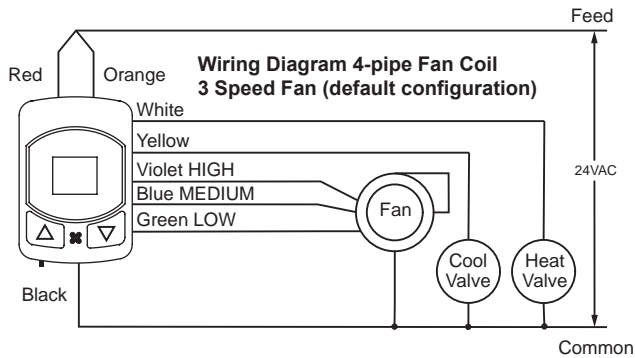Standard Junction Box

Screw: 6/32 x 3/4"
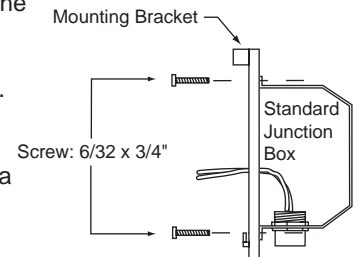
**User Note:** The top of this unit will become warm to the touch. This is a normal operation. Internal heating is employed to continuously convect air upward through the thermostat, thereby improving room air temperature measurement. Direct conflict with a downward ceiling fan or system fan air flow may result in false temperature reading. Locate thermostat to avoid interference.

**7.** From the wire chart found in step 5, assign, according to function, the cable wire colors to the thermostat wire legend provided below. Note: The control feed and the load feed will be connected together for the 4-pipe installation. If this is a new installation, record the cable wire colors in the thermostat legend provided below.

| New Stat Wire Function | New Stat Wire Color | Cable Wire Color |
|---|---|---|
| Control Feed | Red | |
| Load Feed | Orange | |
| Common | Black | |
| Heat | White | |
| Cool | Yellow | |
| Low Fan | Green | |
| Medium Fan | Blue | |
| High Fan | Violet | |

**NOTE:** For more details on Electronic Aquastat installions, refer to **Remote Sensor/Aquastat Option** on page 5.



**Wiring Diagram 4-pipe Fan Coil 3 Speed Fan (default configuration)**



**Wiring Diagram 4-pipe Fan Coil 2 Speed Fan (programmed setting)**

**NOTE:** When the thermostat is programmed for 2 speed the High fan wire will not be used. Also, when the thermostat is programmed for single speed fan, only the low fan wire connection will be used. Isolate any unused fan speed wires from the thermostat.

**8.** Connect the thermostat wires to the cable wires recorded in step 7.

**9.** Push the wires into the junction box. Tilt the thermostat so that the bottom of the thermostat is resting on the mounting tabs of the mounting plate. Push the top of the thermostat towards the wall and secure into place with the self-tapping screw as shown to the right.
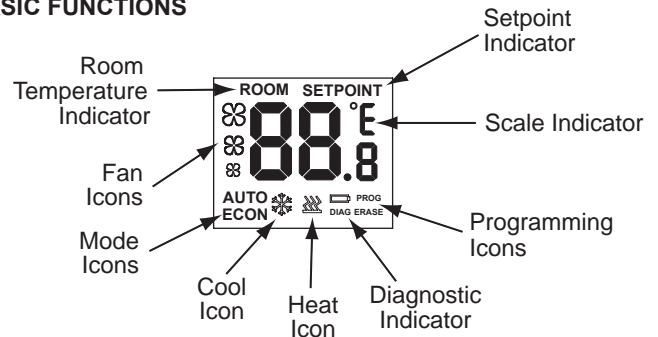

Standard Junction box
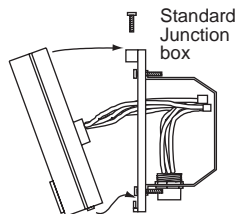
**10.** Turn power on.
At start up, the low fan will automatically run for three minutes to cycle room air.
If cooling or heating is required, it may become active after the first 30 seconds of fan run time.

**BASIC FUNCTIONS**



**Adjust Temperature Setpoint:**
Press up button (▲) to raise the temperature (warmer)
Press down button (▼) to lower the temperature (cooler)

**Select Fan Operation:**
Press fan button ( ✖ ) to select the following fan functions*
Continuous HIGH speed fan
Continuous Medium speed fan
Continuous LOW speed fan
AUTO on/off with automatic speed change
ECON, economy function
*fan function sequence with auto as the starting point

**Change Scale Units:**
Slide the °F/°C switch to the left to display °F
Slide the °F/°C switch to the right to display °C
When the °F/°C switch is invoked, the thermostat will reset and display the default setpoint in the selected scale.

**Cycle Timing:** (Anti-short cycle protection)
3 minute (minimum) dwell time in no-call states (both heat and cool).
1 minute (minimum) dwell time in call states (both heat and cool).
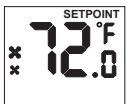Temperature is sampled every 15 seconds.

**Check Low Fan Function:**
Press the fan button. One fan symbol will appear on the LCD. Low fan speed will turn on immediately. Medium or high fan, if active, will turn off.



**Check Medium Fan Function:**
Press the fan button. Two fan symbols will appear on the LCD. Low fan will turn off and medium fan will turn on immediately.



**Check High Fan Function:**
Press the fan button. Three fan symbols will appear on the LCD. Medium fan will turn off and high fan will turn on immediately.



**Check Heating:**
Press and hold the up button until the heat symbol appears on the LCD. Within 4 seconds the heat valve will be activated. For manual changeover models place the system mode switch in the heat or auto position.
**Note:** Room temperature must be below the Comfort Heating Limit 85.0°F (29.5°C) for heating to become active.
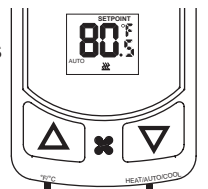
## Check Cooling:

Press and hold the down button until the cool symbol appears on the LCD. Within 4 seconds the cool valve will be activated. For manual changeover models place the system mode switch in the cool or auto position.
**Note:** Room temperature must be above the Comfort Cooling Limit 65°F (18.5°C) for cooling to become active.
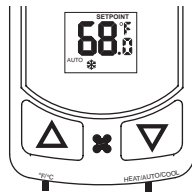
**FUNCTION CHART**

| Heating Currently Active | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Adjust setpoint as follows: | HEAT | COOL | AUTO | LOW | MED | HIGH |
| 6.0°F or more ABOVE room temperature | On | | Hi | Lo | Med | Hi |
| 3.0°F to 5.9°F ABOVE room temperature | On | | Med | Lo | Med | Hi |
| 0.4°F BELOW to 2.9°F ABOVE room temperature | On | | Lo | Lo | Med | Hi |
| 1.9°F to 0.4°F BELOW room temperature | Off | | Off | Lo | Med | Hi |
| 2.0°F BELOW room temperature (cool threshold) | Reset | Set | Lo | Lo | Med | Hi |

| Heating or Cooling Not Currently Active | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Adjust setpoint as follows: | HEAT | COOL | AUTO | LOW | MED | HIGH |
| 2.0°F ABOVE room temperature | Set | | Lo | Lo | Med | Hi |
| 1.9°F ABOVE to 1.9°F BELOW room temperature | Off | Off | Off | Lo | Med | Hi |
| 2.0°F BELOW room temperature | | Set | Lo | Lo | Med | Hi |

| Cooling Currently Active | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Adjust setpoint as follows: | HEAT | COOL | AUTO | LOW | MED | HIGH |
| 2.0°F ABOVE room temperature (heat threshold) | Set | Reset | Lo | Lo | Med | Hi |
| 1.9°F to 0.4°F ABOVE room temperature | | Off | Off | Lo | Med | Hi |
| 0.4°F ABOVE to 2.9°F BELOW room temperature | | On | Lo | Lo | Med | Hi |
| 3.0°F down to 5.9°F BELOW room temperature | | On | Med | Lo | Med | Hi |
| 6.0°F or more BELOW room temperature | | On | Hi | Lo | Med | Hi |

### TROUBLE SHOOTING TESTS (4-Pipe System)

**Voltage:** When using a voltmeter across "Black" and "Red" and "Black" to "Orange", voltage must be 24VAC.
**To Check Continuity:** (Using a Voltmeter with all loads connected)

**A)** When the thermostat is calling for Cooling, meter should read 24VAC from "Black" to "Yellow". When cooling is deactivated, meter should read 0VAC from "Black" to "Yellow".

**B)** When the thermostat is calling for Heating, meter should read 24VAC from "Black" to "White". When heating is deactivated, meter should read 0VAC from "Black" to "White".

**C)** When the thermostat is calling for High Fan, meter should read 24VAC from "Black" to "Violet". When all fan speeds are turned off, meter should read 0VAC from "Black" to "Violet".

**D)** When the thermostat is calling for Medium Fan, meter should read 24VAC from "Black" to "Blue". When all fan speeds are turned off, meter should read 0VAC from "Black" to "Blue".

**E)** When the thermostat is calling for Low Fan, meter should read 24VAC from "Black" to "Green". When all fan speeds are turned off, meter should read 0VAC from "Black" to "Green".

## 2-PIPE FAN COIL INSTALLATION: (Bimetal Aquastat ONLY)

**NOTE:** For Electronic Aquastat applications (RS models) use the 4-Pipe wiring ONLY.

Follow the instructions for a 4-pipe installation with the following exceptions:

| Old Thermostat Function | Cable Wire Color |
|---|---|
| Control Feed | _____ |
| Common | _____ |
| Water Valve | _____ |
| Aquastat Heat | _____ |
| Aquastat Cool | _____ |
| Low Fan | _____ |
| Medium Fan | _____ |
| High Fan | _____ |

| New Stat Wire Function | New Stat Wire Color | Cable Wire Color |
|---|---|---|
| Control Feed | Red | _____ |
| Common | Black | _____ |
| Load Feed (valve) | Orange | _____ |
| Aquastat Heat | White | _____ |
| Aquastat Cool | Yellow | _____ |
| Low Fan | Green | _____ |
| Medium Fan | Blue | _____ |
| High Fan | Violet | _____ |

**Wiring Diagram 2-pipe
Fan Coil with 3 Speed Fan**
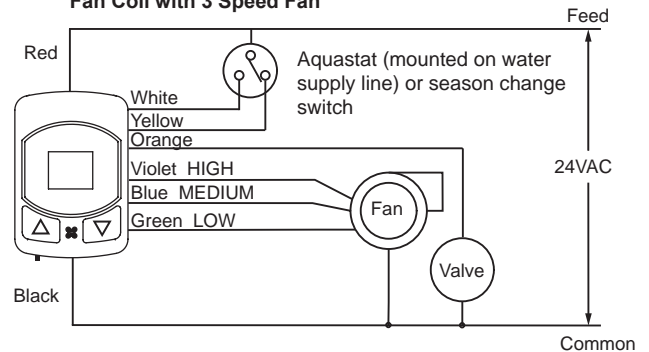
**Wiring Diagram 2-pipe
Fan Coil with 2 Speed Fan**
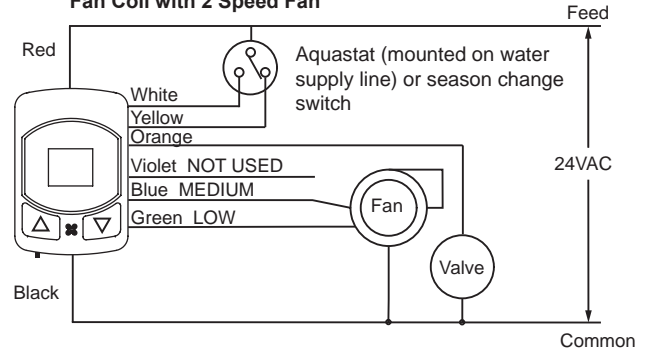
**NOTE:** When the thermostat is programmed for 2 speed the High fan wire will not be used. Also, when the thermostat is programmed for single speed fan, only the low fan wire connection will be used. Isolate any unused fan speed wires from the thermostat.

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## TROUBLE SHOOTING TESTS (2-Pipe System)

**Voltage:** When using a voltmeter across "Black" and "Red", voltage must be 24VAC.

**To Check Continuity:** (Using a Voltmeter with all loads connected)

Cold pipe or season switch set to cool: (power supplied through yellow wire)

**A)** When the thermostat is calling for cooling and low fan, meter should read 24VAC from "Black" to "Orange" and from "Black" to "Green". When cooling is deactivated, meter should read 0VAC from "Black" to "Orange" and "Black" to "Green".

**B)** When the thermostat is calling for cooling and medium fan, meter should read 24VAC from "Black" to "Orange" and from "Black" to "Blue". When cooling is deactivated, meter should read 0VAC from "Black" to "Orange" and "Black" to "Blue".

**C)** When the thermostat is calling for cooling and high fan, meter should read 24VAC from "Black" to "Orange" and from "Black" to "Violet". When cooling is deactivated, meter should read 0VAC from "Black" to "Orange" and "Black" to "Violet".

Hot pipe or season switch set to heat: (power supplied through white wire)

**A)** When the thermostat is calling for heating and low fan, meter should read 24VAC from "Black" to "Orange" and from "Black" to "Green". When heating is deactivated, meter should read 0VAC from "Black" to "Orange" and "Black" to "Green".

**B)** When the thermostat is calling for heating and medium fan, meter should read 24VAC from "Black" to "Orange" and from "Black" to "Blue". When heating is deactivated, meter should read 0VAC from "Black" to "Orange" and "White" to "Blue".

**C)** When the thermostat is calling for heating and high fan, meter should read 24VAC from "Black" to "Orange" and from "Black" to "Violet". When heating is deactivated, meter should read 0VAC from "Black" to "Orange" and "Black" to "Violet".

**FUNCTION CHART**

| Heating Season, Hot Pipe | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Adjust setpoint as follows: | HEAT | COOL | AUTO | LOW | MED | HIGH |
| 6.0°F or more ABOVE room temperature | On | | Hi | Lo | Med | Hi |
| 3.0°F to 5.9°F ABOVE room temperature | On | | Med | Lo | Med | Hi |
| 0.4°F BELOW to 2.9°F ABOVE room temperature | On | | Lo | Lo | Med | Hi |
| 1.9°F to 0.4°F BELOW room temperature | Off | | Off | Off | Off | Off |
| 2.0°F BELOW room temperature (cool threshold) | Reset | Set | Off | Off | Off | Off |

| Heating or Cooling Not Currently Active | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Adjust setpoint as follows: | HEAT | COOL | AUTO | LOW | MED | HIGH |
| 2.0°F ABOVE room temperature, Hot Pipe | Set | | Lo | Lo | Med | Hi |
| 1.9°F ABOVE to 1.9°F BELOW room temperature | Off | Off | Off | Off | Off | Off |
| 2.0°F BELOW room temperature | | Set | Lo | Lo | Med | Hi |

| Cooling Season, Cold Pipe | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Adjust setpoint as follows: | HEAT | COOL | AUTO | LOW | MED | HIGH |
| 2.0°F ABOVE room temperature (heat threshold) | Set | Reset | Off | Off | Off | Off |
| 1.9°F to 0.4°F ABOVE room temperature | | Off | Off | Off | Off | Off |
| 0.4°F ABOVE to 2.9°F BELOW room temperature | | On | Lo | Lo | Med | Hi |
| 3.0°F down to 5.9°F BELOW room temperature | | On | Med | Lo | Med | Hi |
| 6.0°F or more BELOW room temperature | | On | Hi | Lo | Med | Hi |

**Diagnostic Mode:**

Press and hold the "up" and "down" buttons together until "DIAG" appears on the display. Diagnostic mode will alternately display setpoint and room temperature every 8 seconds.
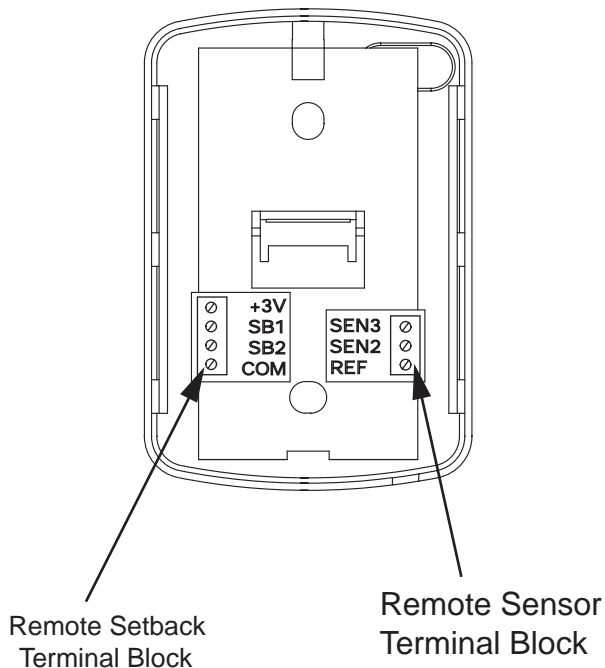
The current operating fan mode will also show. Low speed fan will display a single fan icon, two speed fan will display two fan icons and three speed fan will display three fan icons.
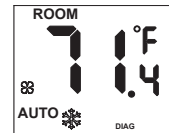
To deactivate the diagnostic mode, press the "fan" button until the fan activity moves to "ECON". "DIAG" will disappear from the display. Press the "fan" button again to return to operating mode.
Diagnostic mode can also be deactivated by changing the °F/°C slide switch.

## Optional remote functions
## PFC-ALV-RS and PFC-MLV-RS models ONLY



| +3V |
| SB1 |
| SB2 |
| COM |

| SEN3 |
| SEN2 |
| REF |

Remote Setback
Terminal Block

Remote Sensor
Terminal Block

### Remote Setback/Shutdown Option:
The remote setback features a dual mode function. SB1 is the input for remote setback (economy) and SB2 is the input for remote shutdown mode. **Setback mode** when energized will remotely place the thermostat in economy mode using the programmable economy heat and cool setpoints. **Shutdown mode** when energized will remotely place the thermostat in disable mode. The thermostat, at this time, will not call for heating or cooling until taken out of shutdown mode.

To activate the setback or shutdown mode use dry contacts (relays or mechanical switch) to connect the +3V terminal to the appropriate SB1 or SB2 terminal. An open circuit on SB1 or SB2 will disable the remote function.

A COM terminal is provided for active type remote switch gear such as the electronic motion sensor. Do not use the COM terminal for any other application.

Dry contact connections



window switch    door switch

| +3V |
| SB1 |
| SB2 |
| COM |
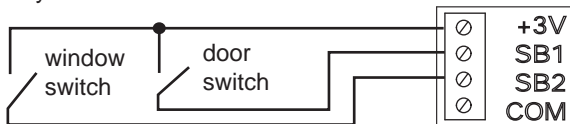
Motion Sensor and dry contact



Motion Sensor   (+3vdc)   (-)   window switch

| +3V |
| SB1 |
| SB2 |
| COM |
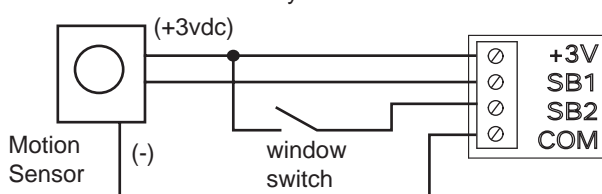
### Remote Sensor/Aquastat Option:
The remote sensor option features a dual mode external sensor function. SEN2 is to be used only as a room temperature sensor (order PSG **P-RS**). SEN3 is to be used only with the Electronic Aquastat Kit (order PSG **P-AK**). The REF terminal is common to both sensor inputs. To activate the SEN2 or SEN3 terminals see programming instructions. Both sensor functions may be used at the same time, having both electronic aquastat and remote room temperature capability. When the remote sensor is connected, it may be used to control the thermostat instead of the on board sensor or it may be averaged with the on board sensor. Use only 3 conductor cable or shielded 2 conductor cable. Connect the shield or the third wire to the COM terminal.



| +3V |
| SB1 |
| SB2 |
| COM |

| SEN3 |
| SEN2 |
| REF |

Aquastat Sensor

Room Sensor
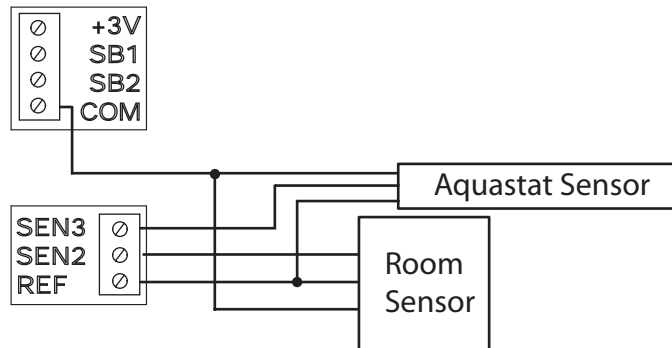
### IMPORTANT:
**The electronic aquastat sensor replaces the bimetal switch which is common in most 2-pipe heat/cool fan coil systems. This allows for the thermostat to directly control the equipment as well as provide for alterations in change-over temperature thresholds. Follow the standard 4-pipe wiring diagram. Cool wire will control the heat/cool valve, the heat wire will operate as an auxilliary electric heat switch (depending on fan coil equipment).**
**Isolate all of the unused wires.**



Water Main    Sensor    Wire Ties    Valve
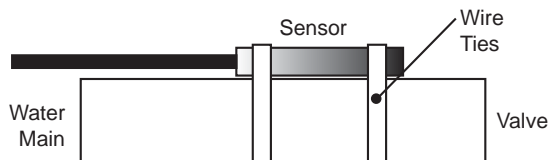
Mount the Electronic Aquastat Sensor to the water pipe. The best location is to be as close to the main pipe as possible and attached before the water valve connection.

Refer to the programming instructions for selecting the aquastat sensor function, temperature changeover settings, output configurations, purge frequency and purge time duration. The thermostat will monitor pipe temperature every 5 seconds. For a valvelss systems, select the **2Pn** configuration setting since this will bypass the valve purge functions and provide heating or cooling based on pipe temperature alone.
The **2PS** and **2PE** configurations operate with a valve purge function to prevent incorrect temperature readings from static or standing water in the pipe. The valve purge operates on a programmed interval (purge frequency) for a programed duration (purge time duration) in the event of low activity over an extended period of time.
If the heat or cool call has lasted for more than three minutes, the pipe temperature heat or cool mode is rechecked to verify proper operating mode.

**Function charts on next page**

## 2Ps Functions:
System with a single valve used for hear and cool.
The cooling wire of the thermostat will be used to control the water valve for heat and cool.
The heat wire will not be used.

**FUNCTION CHART 2Ps**

| Hot Pipe | | FAN SPEED | | | |
|---|---|---|---|---|---|
| Adjust setpoint as follows: | VALVE | AUTO | LOW | MED | HIGH |
| 6.0°F or more ABOVE room temperature | On | Hi | Lo | Med | Hi |
| 3.0°F up to 5.9°F ABOVE room temperature | On | Med | Lo | Med | Hi |
| 0.4°F BELOW to 2.9°F ABOVE room temperature | On | Lo | Lo | Med | Hi |
| more than 0.4°F BELOW room temperature | Off | Off | Lo | Med | Hi |

| Cold Pipe | | FAN SPEED | | | |
|---|---|---|---|---|---|
| Adjust setpoint as follows: | VALVE | AUTO | LOW | MED | HIGH |
| more than 0.4°F ABOVE room temperature | Off | Off | Lo | Med | Hi |
| 0.4°F ABOVE to 2.9°F BELOW room temperature | On | Lo | Lo | Med | Hi |
| 3.0°F down to 5.9°F BELOW room temperature | On | Med | Lo | Med | Hi |
| 6.0°F or more BELOW room temperature | On | Hi | Lo | Med | Hi |

## 2PE Functions:
System with a single valve that supplies both hot and cold water and has an auxiliary electric strip heat for use when pipe is cold.
The cooling wire of the thermostat will be used to control the water valve for heat and cool.
The heat wire will operate auxiliary electric strip heat.

**FUNCTION CHART 2PE**

| Hot Pipe | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Adjust setpoint as follows: | AUX HT | VALVE | AUTO | LOW | MED | HIGH |
| 6.0°F or more ABOVE room temperature | | On | Hi | Lo | Med | Hi |
| 3.0°F up to 5.9°F ABOVE room temperature | | On | Med | Lo | Med | Hi |
| 0.4°F BELOW to 2.9°F ABOVE room temperature | | On | Lo | Lo | Med | Hi |
| more than 0.4°F BELOW room temperature | | Off | Off | Lo | Med | Hi |

| Cold Pipe, Active auxiliary heat | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Adjust setpoint as follows: | AUX HT | VALVE | AUTO | LOW | MED | HIGH |
| 6.0°F or more ABOVE room temperature | On | | Hi | Lo | Med | Hi |
| 3.0°F up to 5.9°F ABOVE room temperature | On | | Med | Lo | Med | Hi |
| 0.4°F BELOW to 2.9°F ABOVE room temperature | On | | Lo | Lo | Med | Hi |
| 1.9°F BELOW to 0.4°F BELOW room temperature | Off | | Off | Lo | Med | Hi |
| 2.0°F BELOW room temperature (cool threshold) | Reset | Set | Lo | Lo | Med | Hi |

| Cold Pipe, Dynamic Dead Band | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Adjust setpoint as follows: | AUX HT | VALVE | AUTO | LOW | MED | HIGH |
| 2.0°F ABOVE room temperature | Set | Off | Lo | Lo | Med | Hi |
| 1.9°F ABOVE to 1.9°F BELOW room temperature | Off | Off | Off | Lo | Med | Hi |
| 2.0°F BELOW room temperature | | Set | Lo | Lo | Med | Hi |

| Cold Pipe, Active Cooling | SYSTEM | | FAN SPEED | | | |
|---|---|---|---|---|---|---|
| Cooling Currently Active | AUX HT | VALVE | AUTO | LOW | MED | HIGH |
| 2.0°F ABOVE room temperature (heat threshold) | Set | Reset | Lo | Lo | Med | Hi |
| 1.9°F ABOVE to 0.4°F ABOVE room temperature | | Off | Off | Lo | Med | Hi |
| 0.4°F ABOVE to 2.9°F BELOW room temperature | | On | Lo | Lo | Med | Hi |
| 3.0°F BELOW to 5.9°F BELOW room temperature | | On | Med | Lo | Med | Hi |
| 6.0°F or more BELOW room temperature | | On | Hi | Lo | Med | Hi |

## 2Pn Functions:
System is valveless.
Heating and cooling are provided by operating fans only. The cooling wire of the thermostat will operate similiarly to the 2Ps above, but it is not necessary for connection.
The heat wire will not be used.

**FUNCTION CHART 2Pn**

| Hot Pipe | | FAN SPEED | | | |
|---|---|---|---|---|---|
| Adjust setpoint as follows: | VALVE | AUTO | LOW | MED | HIGH |
| 6.0°F or more ABOVE room temperature | On | Hi | Lo | Med | Hi |
| 3.0°F up to 5.9°F ABOVE room temperature | On | Med | Lo | Med | Hi |
| 0.4°F BELOW to 2.9°F ABOVE room temperature | On | Lo | Lo | Med | Hi |
| more than 0.4°F BELOW room temperature | Off | Off | Off | *Off | *Off |

| Cold Pipe | | FAN SPEED | | | |
|---|---|---|---|---|---|
| Adjust setpoint as follows: | VALVE | AUTO | LOW | MED | HIGH |
| more than 0.4°F ABOVE room temperature | Off | Off | Lo | *Off | *Off |
| 0.4°F ABOVE to 2.9°F BELOW room temperature | On | Lo | Lo | Med | Hi |
| 3.0°F down to 5.9°F BELOW room temperature | On | Med | Lo | Med | Hi |
| 6.0°F or more BELOW room temperature | On | Hi | Lo | Med | Hi |

Toll free technical assistance is available
via our technical hotline: 1-800-523-2558
Mon-Fri, 8:00 A.M. to 4:30 P.M. Eastern Standard Time

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