



Made in USA

# SC 3000

## Programmable Electronic Thermostat

1-Stage Heat Pump  
Manual Changeover  
Battery

- 7-Day Programmable
- Single Stage Heat Pump/Non-Heat Pump Systems
- Single Stage Heat/Cool Systems
- Millivolt and Hydronic (water or steam) System Compatible
- Manual Changeover
- Simpleset® Programming
- Compatible with Gas, Oil, Electric, or Millivolt
- Relay Outputs (minimum voltage drop in thermostat)
- Ideally Suited for Residential
  - Residential (New Construction/ Replacement), Light Commercial



## Installation, Operation & Application Guide

For more information on our complete range of American-made products – plus wiring diagrams, troubleshooting tips and more, visit us at [www.icmcontrols.com](http://www.icmcontrols.com)

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CONTROLS™

# Table of Contents

Specifications .....	1
Important Safety Information .....	1
Package Contents/Tools Required.....	1
To Remove Existing Thermostat .....	2
To Install Thermostat.....	2
Wiring Diagrams.....	4
Heating Only .....	4
Heating/Cooling .....	5
Heat Pump.....	6
Cooling Only .....	6
Zone Valve/Damper Motor System .....	7
Operation .....	8
Setting the Setpoint Temperature .....	8
Setting the Temperature Differential .....	8
Setting to Heat Pump or Non-Heat Pump.....	9
Starting the Thermostat.....	9
Testing the Thermostat .....	10
Operating Modes .....	11
Setting the Time and Day of the Week .....	12
Programming .....	13
Simpleset™ Programming .....	15
Factory Programming .....	15
Personal Program Schedule .....	16
Troubleshooting .....	17

## Specifications

- Electrical rating:**
- Millivolt to 30 VAC/VDC
  - DC Power: 3.0 VDC (2 "AA" alkaline batteries included)
  - 1 amp maximum per terminal
  - 3 amp maximum total load

**Temperature control range:** 45°F to 90°F (7°C to 32°C) **Accuracy:**  $\pm 1^\circ\text{F}$  ( $\pm 0.5^\circ\text{C}$ )

**System configurations:** 1-stage heat, 1-stage cool, heat pump, gas, oil, electric, millivolt

**Terminations:** RH, RC, W, Y, B, O, G

## Important Safety Information

**WARNING!:** *Always turn off power at the main power supply before installing, cleaning, or removing thermostat.*

- This thermostat is for 24 VAC/VDC applications only; do not use on voltages over 30 VAC/VDC
- Do not short across terminals of gas valve or system control to test operation; this will damage your thermostat and void your warranty
- All wiring must conform to local and national electrical and building codes
- Do not use air conditioning when the outdoor temperature is below 50 degrees; this can damage your A/C system and cause personal injuries
- Use this thermostat only as described in this manual

## Package Contents/Tools Required

**Package includes:** SimpleComfort® 3000 thermostat on base, thermostat cover, wiring labels, screws and wall anchors, Installation, Operation and Application Guide.

**Tools required for installation:** Drill with 3/16" bit, hammer, screwdriver.

## To Remove Existing Thermostat



**ELECTRICAL SHOCK HAZARD** – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to the OFF position before removing the existing thermostat.

1. Turn off power to the heating and cooling system by removing the fuse or switching the appropriate circuit breaker off.
2. Remove cover of old thermostat. This should expose the wires.
3. Label the existing wires with the enclosed wire labels before removing wires.
4. After labeling wires, remove wires from wire terminals.
5. Remove existing thermostat base from wall.
6. Refer to the following section for instructions on how to install this thermostat.

## To Install Thermostat



**ELECTRICAL SHOCK HAZARD** – Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to the OFF position before removing the existing thermostat.

**IMPORTANT:** Thermostat installation must conform to local and national building and electrical codes and ordinances.

\*\* **Note:** Mount the thermostat about five feet above the floor. Do not mount the thermostat on an outside wall, in direct sunlight, behind a door, or in an area affected by a vent or duct.

1. Turn off power to the heating and cooling system by removing the fuse or switching the appropriate circuit breaker off.

## To Install Thermostat (continued)

2. To remove cover, insert and twist a coin or screwdriver in the slots on the sides of the thermostat.
3. Put thermostat base against the wall where you plan to mount it (Be sure wires will feed through the wire opening in the base of the thermostat).
4. Mark the placement of the mounting holes.
5. Set thermostat base and cover away from working area.
6. Using a 3/16" drill bit, drill holes in the places you have marked for mounting.
7. Use a hammer to tap supplied anchors in mounting holes.
8. Align thermostat base with mounting holes and feed the control wires through wire opening.
9. Use supplied screws to mount thermostat base to wall.
10. Insert stripped, labeled wires in matching wire terminals. See "Wiring Diagrams" section of this manual (Pages 4-7).

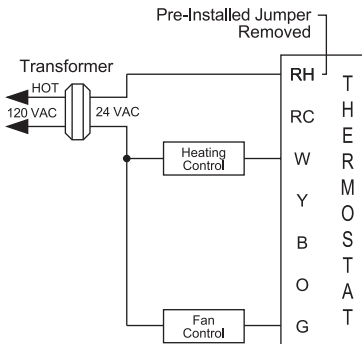
**CAUTION!:** *Be sure exposed portion of wires does not touch other wires.*

11. Tighten screws on terminal block. Gently tug wire to be sure of proper connection. Double check that each wire is connected to the proper terminal.
12. Seal hole for wires behind thermostat with non-flammable insulation or putty.
13. Set **Gas/Electric** switch:
  - Set to **Gas** for oil or gas systems
  - Set to **Electric** for heat pumps or electric heat systems
14. Insert two fresh "AA" alkaline batteries into thermostat; oriented in the direction shown on the battery holder.
15. Replace cover on thermostat by snapping it in place.
16. Turn on power to the system at the main service panel.
17. Test thermostat operation as described in "Testing the Thermostat" (Page 10).

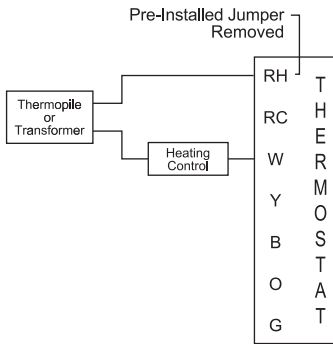
# Wiring Diagrams

## Heating Only

### 3-Wire, Single Transformer

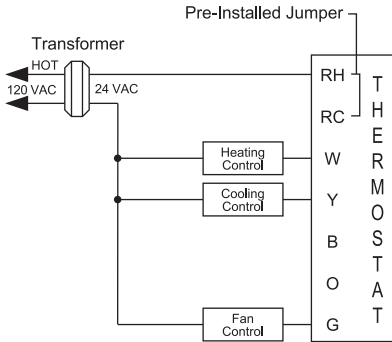


### 2-Wire, Single Transformer or Millivolt

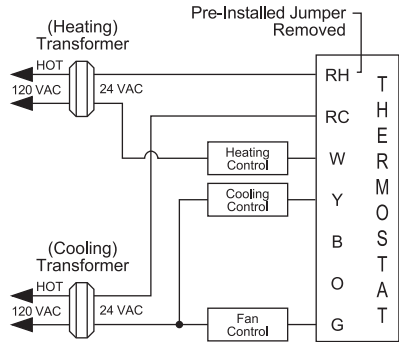


# Heating/Cooling

## 4-Wire, Single Transformer



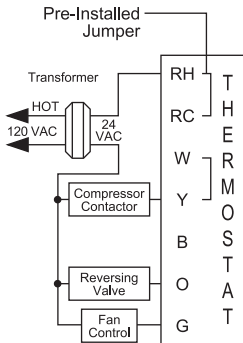
## 5-Wire\*, Two Transformer



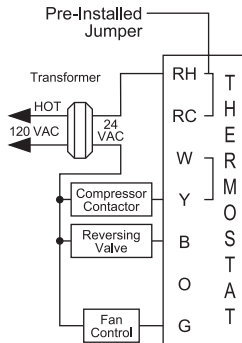
\* Both transformers must be in phase.

## Heat Pump

### Cool Active Reversing Valve



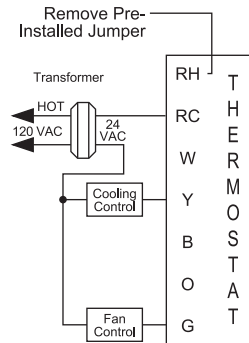
### Heat Active Reversing Valve



Place jumper between "W" and "Y" terminals

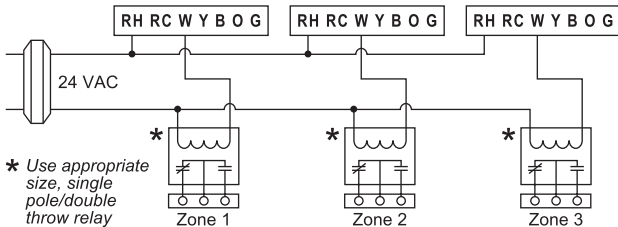
## Cooling Only

### 3-Wire, Single Transformer

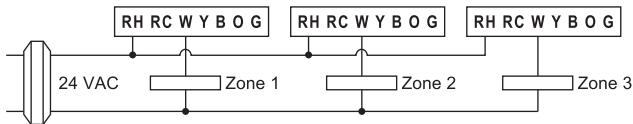


# Zone Valve/Damper Motor System

## 3-Wire, Zone Valve/Damper Motor System



## 2-Wire, Zone Valve/Damper Motor System



\*\* **Note:** Differential temperature may need to be increased for zone/damper systems (see Page 8).

## Operation

The SimpleComfort® 3000 thermostat has buttons that are used to:

- Adjust the setpoints of the thermostat
- Set the modes
- Program the schedule
- Reset the thermostat

## Setting the Setpoint Temperature

1. With the **Mode** switch in **Heat** or **Cool**, the current temperature setpoint displays.
2. Press the  $\vee$  or  $\wedge$  button until the desired temperature setpoint displays.
3. The new temperature setpoint is automatically saved in memory.

## Setting the Temperature Differential

1. The default temperature differential is 1°. When your room temperature varies by 1°F, the thermostat turns on your system. If you notice your system turning on and off too frequently, increase the temperature differential.
2. Place the **Cool/Off/Heat** switch in **OFF** position.
3. Remove cover and press both  $\vee$  and  $\wedge$  buttons.
4. Press the  $\vee$  or  $\wedge$  button to select desired settings.
5. When finished, move the **Cool/Off/Heat** switch to **Heat** or **Cool** position to lock the setting into memory.

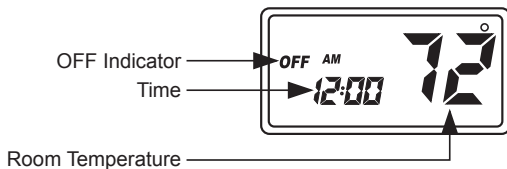
## Setting to Heat Pump or Non-Heat Pump

1. The factory default setting is non-heat pump.
2. Place **Cool/Off/Heat** switch in the **OFF** position.
3. Remove cover and press both the  $\vee$  and  $\wedge$  buttons. Differential setting displays.
4. Press **SW6**  $\rangle$  button. Heat pump **ON/OFF** displays.
5. Use the  $\vee$  or  $\wedge$  button to configure heat pump setting.
6. Move **Cool/Off/Heat** switch to **Heat** or **Cool** to lock setting into memory.

## Starting the Thermostat

**CAUTION!** Do not use air conditioning when the outdoor temperature is below 50 degrees. This can damage your air conditioning system and cause personal injuries.

1. Move the **Fan Auto/On** switch to the **Auto** position.
2. Move the **Cool/Off/Heat** switch to **Cool** or **Heat**, depending on the season.



# Testing the Thermostat

Once the thermostat is installed, it should be thoroughly tested.

**CAUTION!:** Do not energize the air conditioning system when the outdoor temperature is below 50 degrees. It can result in equipment damage or personal injury.

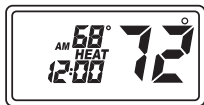
## Cool Test

1. Slide Mode button to Cool position. Cool mode screen is displayed.
2. Adjust set temperature so it is 5 degrees below room temperature.
3. Air conditioning should come on within a few seconds.
4. Adjust the set temperature 2 degrees above the room temperature and the A/C should turn off. There may be a fan delay on your system.  
\*\* **Note:** There is a four minute delay to protect your compressor.



## Heat Test

1. Slide Mode button to Heat position. Heat mode screen is displayed.
2. Adjust the set temperature so it is 5 degrees above the room temperature.
3. Heat should come on within a few seconds.
4. Adjust the set temperature so it is 2 degrees below the room temperature and the heat should turn off. There may be a fan delay on your system.  
\*\* **Note:** For heat pumps, there is a four minute delay to protect your compressor.



## Fan Test

1. Slide Fan switch to **ON** position.
2. Indoor fan turns **ON**.
3. Slide **Fan** switch to **Auto** position.
4. Indoor fan turns **OFF**.



# Operating Modes

## OFF Mode

- In this mode, the thermostat will not turn on the heating or cooling devices (manual fan can operate)
- **OFF** mode is also used to access setup and the program schedule

## Cool Mode

- In this mode, the thermostat controls the cooling system
- Press the **Mode** button to enter and exit **Program Cool** mode
- In **Program Cool** mode, the thermostat will follow the program schedule that is stored in memory

## Heat Mode

- In this mode, the thermostat controls the heating system
- Press the **Mode** button to enter or exit the **Program Heat** mode
- In **Program Heat** mode, the thermostat will follow the program schedule that is stored in memory

## Hold Functions

When in **Programmable Cool** or **Programmable Heat**, you can lock in the present settings indefinitely by pressing the **Hold** button once (PROG flashes). Press **Hold** button again to leave **Hold** mode (PROG solid). For a temporary hold period, raise or lower set temperature to desired set temperature. The thermostat will automatically return to programmed set temperature after 2 hours.

## Setting the Time and Day of the Week

The time and day of the week must be set for your program schedule to operate correctly.

1. Slide the **Cool/Off/Heat** switch to the **OFF** position.



2. Press the > button and hold in for 6 seconds.

3. Press the v or ^ button to adjust the time.



4. Press the > button while the time is displayed. The display shows the day currently set on the thermostat (1=Monday 2=Tuesday, etc.).

5. Press the v or ^ button to set the correct day of the week that today is.

\*\* **Note:** Sliding the **Cool/Off/Heat** switch to **Cool** or **Heat** positions will lock the values into memory. Press the > button to enter programming.



# Programming

## Program Overview

The SC3000 programmable thermostat has four periods (MORN, DAY, EVE, NITE) that are customizable for each day of the week. Each period will have a start time, heat temperature, and cool temperature. The SC3000 monitors the day and time, while maintaining the specific conditions you have chosen for each period in your program.

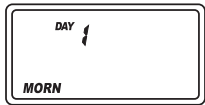
1. Place **Cool/Off/Heat** switch in **OFF** position.
2. Press the > button for 6 seconds.
3. Press the > button twice:



- Day is displayed (1-7)
4. Press the ∨ or ∧ button to change the day you want to program (1=Monday, 2=Tuesday, etc.).
  5. Press the > button to advance to the next parameter:

\*\* **Note:** You can use the < button to return to the previous parameter.

- Period is displayed (MORN, DAY, EVE, NITE)
6. Press the ∨ or ∧ button to change period of day.
  7. Press the > button to advance to the next parameter.



- Set time is displayed
8. Press the ∨ or ∧ button to change set time.
  9. Press the > button to advance to the next parameter.

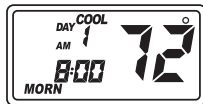


(continued on next page)

- Heat temperature is displayed (50°F to 90°F)
10. Press the  $\vee$  or  $\wedge$  button to adjust heat set temperature.
  11. Press the  $\rangle$  button to advance to the next parameter.



- Cool temperature is displayed (45°F to 85°F)
12. Press the  $\vee$  or  $\wedge$  button to adjust cool set temperature.
  13. Press the  $\rangle$  button to advance to the next parameter.



Repeat Steps 1-13 to program each day of the week individually or use the SimpleSet™ feature (see Page 15) to program every day the same as Monday.

When programming is complete, slide the **Cool/Off/Heat** switch to **Heat** or **Cool** to exit.

PROG must display on the screen for the thermostat to follow the program schedule. If PROG does not appear, press the mode button once. If PROG flashes, it is in hold and will not make transitions. To exit hold, press the hold button once.

## Simpleset™ Programming

Simpleset™ programming is a convenient method of programming the thermostat. Once the entire Monday (Day 1) schedule is set, Simpleset™ programming will copy the Monday schedule to every day of the week.

After the complete Monday schedule is set (see Programming on Page 13), you are at the Day 2 screen:

1. Press the  $\nabla$  button once. Day 1 screen displays.
2. Press the  $\nabla$  button for 2 seconds:
  - The days of the week will count down from 7 to 1 and this will lock the settings into memory
  - Once the schedule is locked in, you can go through each day and make any changes you require; this feature speeds up the programming of the standard weekday/weekend schedule
3. Slide **Cool/Off/Heat** switch to **Heat** or **Cool** to exit **Program** mode.



## Factory Programming

The SC3000 comes preprogrammed with the following schedule:

<b>MONDAY thru SUNDAY</b>	<b>MORN</b>	<b>6:00 AM</b>	<b>DAY</b>	<b>8:00 AM</b>	<b>EVE</b>	<b>6:00 PM</b>	<b>NITE</b>	<b>10:00 PM</b>
	<b>HEAT</b>	70°F	<b>HEAT</b>	62°F	<b>HEAT</b>	70°F	<b>HEAT</b>	62°F
	<b>COOL</b>	78°F	<b>COOL</b>	85°F	<b>COOL</b>	78°F	<b>COOL</b>	82°F

# Personal Program Schedule

Use the following personal program schedule to record your settings:

<b>MONDAY</b> 1	<b>MORN</b>		<b>DAY</b>		<b>EVE</b>		<b>NITE</b>	
	HEAT		HEAT		HEAT		HEAT	
	COOL		COOL		COOL		COOL	
<b>TUESDAY</b> 2	<b>MORN</b>		<b>DAY</b>		<b>EVE</b>		<b>NITE</b>	
	HEAT		HEAT		HEAT		HEAT	
	COOL		COOL		COOL		COOL	
<b>WEDNESDAY</b> 3	<b>MORN</b>		<b>DAY</b>		<b>EVE</b>		<b>NITE</b>	
	HEAT		HEAT		HEAT		HEAT	
	COOL		COOL		COOL		COOL	
<b>THURSDAY</b> 4	<b>MORN</b>		<b>DAY</b>		<b>EVE</b>		<b>NITE</b>	
	HEAT		HEAT		HEAT		HEAT	
	COOL		COOL		COOL		COOL	
<b>FRIDAY</b> 5	<b>MORN</b>		<b>DAY</b>		<b>EVE</b>		<b>NITE</b>	
	HEAT		HEAT		HEAT		HEAT	
	COOL		COOL		COOL		COOL	

SATURDAY  
6

<b>MORN</b>	
HEAT	
COOL	

<b>DAY</b>	
HEAT	
COOL	

<b>EVE</b>	
HEAT	
COOL	

<b>NITE</b>	
HEAT	
COOL	

SUNDAY  
7

<b>MORN</b>	
HEAT	
COOL	

<b>DAY</b>	
HEAT	
COOL	

<b>EVE</b>	
HEAT	
COOL	

<b>NITE</b>	
HEAT	
COOL	

## Troubleshooting

Symptom	Remedy
No display	Check batteries; display is blank when batteries are not present or are dead
System fan does not come on properly	Verify wiring is correct, check Gas/Electric switch position
Program schedule activates at the wrong time	Check time (AM/PM) set on thermostat (see "Setting the Time," Page 12)
Thermostat turns on and off too frequently	Adjust temperature differential (see "Setting the Temperature Differential," Page 8)
Thermostat does not follow program	Verify it is operating in Program mode; check time (AM/PM); check if in Hold mode
"PROGram" flashes (in Hold mode)	Press Hold button to remove from Hold mode
Fan runs continuously	Check Fan Auto/On switch
Low battery indicator	Batteries need to be replaced
Problem not listed above	Press reset button once*

\* **Reset Button Function:** Time, day and program/non-program changed to last saved settings (saved after program or configuration change), configuration and program unchanged, ASC timer reset to 0.

## **ONE-YEAR LIMITED WARRANTY**

The Seller warrants its products against defects in material or workmanship for a period of one (1) year from the date of manufacture. The liability of the Seller is limited, at its option, to repair, replace or issue a non-case credit for the purchase prices of the goods which are provided to be defective. The warranty and remedies set forth herein do not apply to any goods or parts thereof which have been subjected to misuse including any use or application in violation of the Seller's instructions, neglect, tampering, improper storage, incorrect installation or servicing not performed by the Seller. In order to permit the Seller to properly administer the warranty, the Buyer shall: 1) Notify the Seller promptly of any claim, submitting date code information or any other pertinent data as requested by the Seller. 2) Permit the Seller to inspect and test the product claimed to be defective. Items claimed to be defective and are determined by Seller to be non-defective are subject to a \$30.00 per hour inspection fee. This warranty constitutes the Seller's sole liability hereunder and is in lieu of any other warranty expressed, implied or statutory. Unless otherwise stated in writing, Seller makes no warranty that the goods depicted or described herein are fit for any particular purpose.



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