Programming

Program Overview

The SC3000L 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 SC3000L monitors the day and time, while maintaining the specific conditions you have chosen for each period in your program.

Setting the program schedule:
1. Slide the system switch to the center position. You are in **OFF** mode.
2. Press and hold the **PROG** and **RIGHT** buttons (pressed simultaneously) for 6 seconds.
3. Press the **RIGHT** button 3 times.
4. Day 1-7 are blinking.

From this screen you have 2 options:
1. Press the **RIGHT** button to begin programming all 7 days at one time, or
2. Press the **UP** button to see the other programming options.
   ⁂ **Note:** The days of the week shown on the display will be programmed simultaneously. The screens are listed below.

		SUN	MON	TUE	WED	THU	FRI	SAT
Screen 1	1-7	SUN	MON	TUE	WED	THU	FRI	SAT
Screen 2	1-5		MON	TUE	WED	THU	FRI	
Screen 3	01		MON					
Screen 4	02			TUE				
Screen 5	03				WED			
Screen 6	04					THU		
Screen 7	05						FRI	
Screen 8	6-7	SUN						SAT
Screen 9	06							SAT
Screen 10	07	SUN						
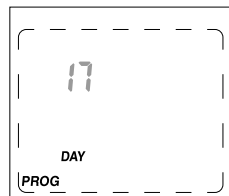
From any of the screens above, you can press the **RIGHT** button to begin entering your program schedule. The days shown on the display will all be programmed simultaneously.

Once the **RIGHT** button is pressed, **MORN** blinks.
Use the **UP** or **DOWN** button to select a different period (**MORN, DAY, EVE, NITE**).

Press **RIGHT** button to advance to the next screen. Transition time hour blinks.
Use the **UP** or **DOWN** button to select a different hour.

Press **RIGHT** button to advance to the next screen. Transition time minutes blink.
Use the **UP** or **DOWN** button to select different minutes.

Press **RIGHT** button to advance to the next screen. Heat set temperature displays.
Use the **UP** or **DOWN** button to adjust the heat set temperature.

Press **RIGHT** button to advance to the next screen. Cool set temperature displays.
Use the **UP** or **DOWN** button to adjust the cool set temperature.

Repeat above steps to program the four periods per day.

When the program schedule is complete, press and hold the **PROG** and **RIGHT** buttons (pressed simultaneously) in for 2 seconds to return to the **OFF** mode.

Lockout Feature

The SC3000L has a button lockout feature so the mode cannot be changed and the temperature adjustment is limited. Select the appropriate lockout from Configuration Mode Settings (Step 4, Page 11) of this guide.

To activate the LOC feature:
1. Simultaneously press the **PROG**, **RIGHT** and **UP** buttons for 10 seconds.
2. LOC will display and the lockout function will be enabled.
To deactivate the LOC feature, repeat steps 1 and 2 above.

Factory Preprogramming

The SC3000L comes preprogrammed with the following schedule:

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

Personal Program Schedule

Use the following personal program schedule to record your settings:

MONDAY 1

MORN		DAY		EVE		NITE	
HEAT		HEAT		HEAT		HEAT	
COOL		COOL		COOL		COOL	

TUESDAY 2

MORN		DAY		EVE		NITE	
HEAT		HEAT		HEAT		HEAT	
COOL		COOL		COOL		COOL	

WEDNESDAY 3

MORN		DAY		EVE		NITE	
HEAT		HEAT		HEAT		HEAT	
COOL		COOL		COOL		COOL	

Personal Program Schedule (continued)

THURSDAY 4

MORN		DAY		EVE		NITE	
HEAT		HEAT		HEAT		HEAT	
COOL		COOL		COOL		COOL	

FRIDAY 5

MORN		DAY		EVE		NITE	
HEAT		HEAT		HEAT		HEAT	
COOL		COOL		COOL		COOL	

SATURDAY 6

MORN		DAY		EVE		NITE	
HEAT		HEAT		HEAT		HEAT	
COOL		COOL		COOL		COOL	

SUNDAY 7

MORN		DAY		EVE		NITE	
HEAT		HEAT		HEAT		HEAT	
COOL		COOL		COOL		COOL	

SimpleSet™ Field Programming

This feature is used for transferring configuration and program schedule from the master to the target thermostat. All thermostats for a job can be mounted and powered up. Configure and program one thermostat. This will be the master. The master will be used to copy the program to the rest of the thermostats.

Preparing the master to Send:
1. The master must be powered with 2 "AAA" batteries.
2. Verify the master thermostat is in **OFF** mode. Slide system switch to center position.
3. Remove cover of the master thermostat by gently pulling near one of the corners at the top of the thermostat.
4. Press the **UP** and **DOWN** buttons and **CONFIG** switch simultaneously for 5 seconds.
5. The **OUT** screen displays indicating the master thermostat is ready to transfer data.
   ⁂ **Note:** Press the **UP** and **DOWN** buttons and **CONFIG** switch simultaneously for 5 seconds to exit from data transfer mode and to return the master to the **OFF** mode.
6. Connect the master to the target using the 3 wire connector. Attach one end to the Master's FP pins and the other end to the Target's FP pins.
   ⁂ **Note:** Target thermostat must be powered with 2 "AAA" batteries for field programming to occur

When the connection has been made correctly, the master thermostat will power up and the target will count from 5 down to 1. It will then display **LOC** confirming the data has been saved in memory.

When all target thermostats have been completed, reinstall the master thermostat.

Press the **UP** and **DOWN** buttons and the **CONFIG** switch simultaneously for 5 seconds to exit from the data transfer mode and to return the master thermostat to the **OFF** mode.

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 jumper position
Program schedule activates at the wrong time	Check time (AM/PM) set on thermostat (see "Setting the Time," Page 15)
Thermostat turns on and off too frequently	Adjust temperature differential (see "Configuration Mode Settings," Page 10)
Thermostat does not follow program	Verify it is operating in Program mode (PROG displays); check time (AM/PM); check if in 2-hour Hold mode
Fan runs continuously	Check Fan Auto/On switch, continuous fan operation in ON position
⬛ on display	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.

Table of Contents

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.

ICM CONTROLS

Patent No. 424,953

7313 William Barry Blvd., North Syracuse, NY 13212
(Toll Free) 800-365-5525   (Phone) 315-233-5266   (Fax) 315-233-5276

www.icmcontrols.com   LIAF018

Made in USA

SC3000L

Programmable Electronic Thermostat

1-Stage Heat/ 1-Stage Cool
Manual Changeover
Battery

- 7-Day Programmable
- Single Stage Heat/Cool Systems
- Single Stage Heat Pump
- Millivolt and Hydronic (Water or Steam) System Compatible
- Manual Changeover
- SimpleSet® Target Programming
- Selectable °F or °C
- Compatible with Gas, Oil, Electric, or Millivolt
- Large Display With Backlight
- Relay Outputs (minimum voltage drop in thermostat)
- Ideally Suited for Residential
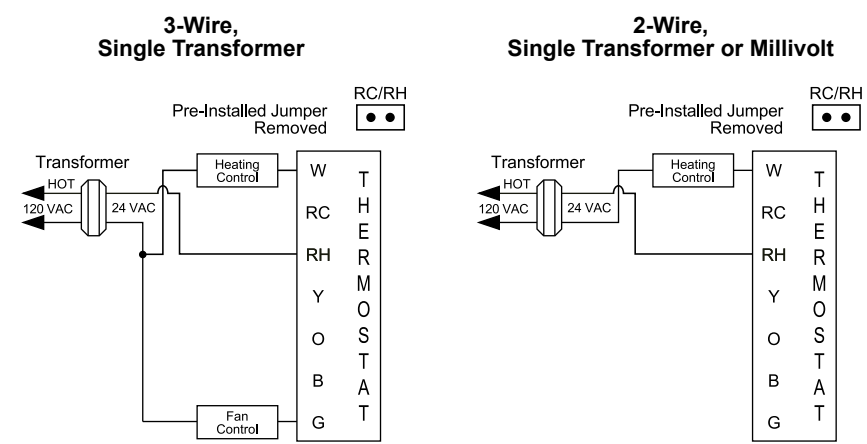 – Residential (New Construction/Replacement), Light Commercial

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**
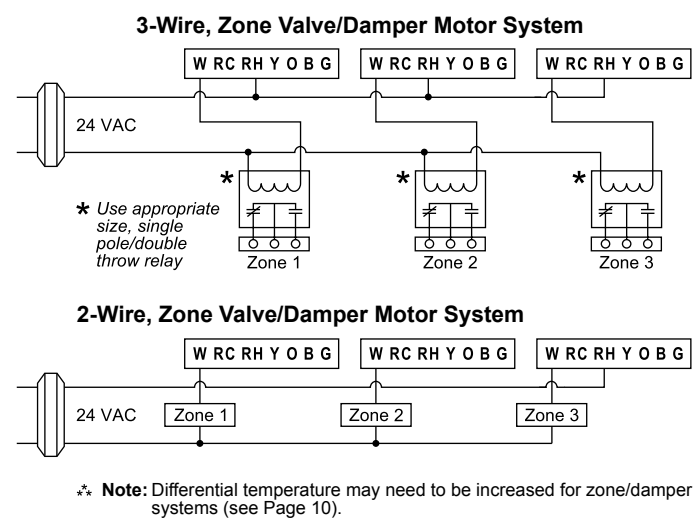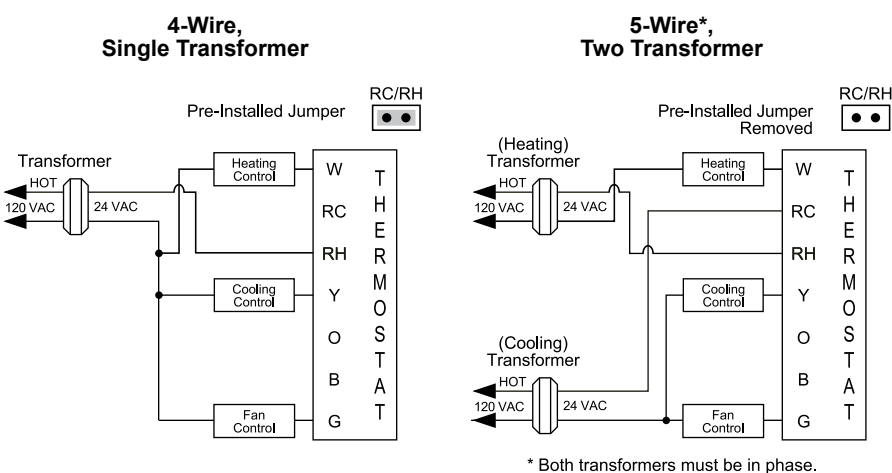
ICM CONTROLS

Specifications

Electrical rating: • Millivolt to 30 VAC/VDC
• DC Power: 3.0 VDC (2 "AAA" 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:** ± 1°F (± 0.5°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® SC3000L thermostat on base, thermostat cover, wiring labels, screws and wall anchors, 2 "AAA" batteries, 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.
2. To remove cover, insert and twist a coin or screwdriver in the slots on the top corner 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. Gently tug wire to be sure of proper connection. Double check that each wire is connected to the proper terminal.
12. Remove RC/RH jumper for 2-transformer systems.
13. Set **Gas/Electric** jumper:
    • Set to **Gas** for oil or gas systems
    • Set to **Electric** for heat pumps or electric heat systems
14. Insert two fresh "AAA" 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 13).

Wiring Diagrams

Heating Only

3-Wire, Single Transformer

Pre-Installed Jumper Removed | RC/RH

Transformer
120 VAC | HOT | 24 VAC

Heating Control

W
RC
RH
Y
O
B
G

THERMOSTAT

Fan Control

2-Wire, Single Transformer or Millivolt

Pre-Installed Jumper Removed | RC/RH

Transformer
120 VAC | HOT | 24 VAC

Heating Control

W
RC
RH
Y
O
B
G

THERMOSTAT

Heating/Cooling

4-Wire, Single Transformer

Pre-Installed Jumper | RC/RH

Transformer
120 VAC | HOT | 24 VAC

Heating Control

Cooling Control

W
RC
RH
Y
O
B
G

THERMOSTAT

Fan Control

5-Wire*, Two Transformer

Pre-Installed Jumper Removed | RC/RH

(Heating) Transformer
120 VAC | HOT | 24 VAC

Heating Control

Cooling Control

(Cooling) Transformer
120 VAC | HOT | 24 VAC

W
RC
RH
Y
O
B
G

THERMOSTAT

Fan Control

* Both transformers must be in phase.

Heat Pump

Cool Active Reversing Valve

Pre-Installed Jumper | RC/RH

Transformer
120 VAC | HOT | 24 VAC

Compressor Contactor

Reversing Valve

Fan Control

W
RC
RH
Y
O
B
G

THERMOSTAT

Heat Active Reversing Valve

Pre-Installed Jumper | RC/RH

Transformer
120 VAC | HOT | 24 VAC

Compressor Contactor

Reversing Valve

Fan Control

W
RC
RH
Y
O
B
G

THERMOSTAT

Cooling Only

3-Wire, Single Transformer

Remove Pre-Installed Jumper | RC/RH

Transformer
120 VAC | HOT | 24 VAC

Cooling Control

Fan Control

W
RC
RH
Y
O
B
G

THERMOSTAT

Place jumper wire between "W" and "Y" terminals

Zone Valve/Damper Motor System

3-Wire, Zone Valve/Damper Motor System

| W RC RH Y O B G | W RC RH Y O B G | W RC RH Y O B G |

24 VAC

* Zone 1 | * Zone 2 | * Zone 3

* Use appropriate size, single pole/double throw relay

2-Wire, Zone Valve/Damper Motor System

| W RC RH Y O B G | W RC RH Y O B G | W RC RH Y O B G |

24 VAC | Zone 1 | Zone 2 | Zone 3

❈ Note: Differential temperature may need to be increased for zone/damper systems (see Page 10).

Parts Diagram

- Up Button
- Down Button
- Gas/Electric Jumper
- RC/RH Jumper
- Right Switch
- Left (PROG) Switch
- Field Programming Pins
- Configuration Switch
- Reset Switch

Installing and Changing Batteries

If your LCD is blank, or displaying **LO BAT**, the batteries are not installed or need to be changed. We suggest you change the batteries at least once a year, or whenever the **LO BAT** warning displays.

Remove the cover, and install the two "AAA" alkaline batteries into the battery compartment. Proper battery installation is important! Make sure the positive ends of the batteries match the positive terminals in the battery compartment.

Setting the Setpoint Temperature

1. With the system switch in **Heat** or **Cool**, the current temperature setpoint displays.
2. Press the **UP** or **DOWN** button until the desired temperature setpoint displays.
3. The new temperature setpoint is automatically saved in memory.
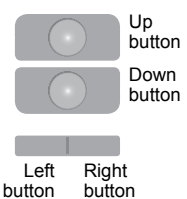
Configuration Mode

The configuration mode is used to set the SC3000L to match your heating/cooling system. The SC3000L functions with heat pump, air conditioning, gas, oil or electric heat systems.

To configure the SC3000L, perform the following steps:

1. Verify the SC3000L is in the **OFF** mode.
   Slide the system switch until off mode displays (to the center position).

2. Remove the cover of the thermostat by gently pulling near one of the corners at the top of the thermostat.

3. Press the **CONFIG** button for 1 second while the SC3000L is in **OFF** mode.
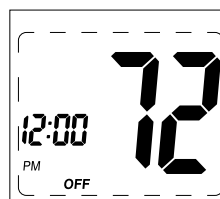
Press the **UP** or **DOWN** button to change settings within each screen.

- Up button
- Down button
- Left button
- Right button

Press the **RIGHT** button to advance to the next screen.

❈ Note: Pressing the **LEFT** button will return you to the previous screen.

To exit configuration mode, press the **CONFIG** switch for 1 second.

Configuration Mode Settings

The setup screens for Configuration Mode are as follows:

1. **Temperature Scale** (F or C) – Choose Fahrenheit or Celsius.
   Press the **UP** or **DOWN** button to select.
   Press the **RIGHT** button to advance to the next screen.

FC F

2. **Temperature Differential** (1°F to 5°F) (1°C to 3°C) – Set the number of degrees between your "setpoint" temperature and your "turn on" temperature.
   Press the **UP** or **DOWN** button to set differential value.
   Press the **RIGHT** button to advance to the next screen.

dFF 1

3. **Heat Pump** and **Non-Heat Pump** – Set to heat pump, or non-heat pump system. For heat pumps, there will be a compressor time delay for heating and cooling.
   • 1 = Heat pump system
   • 0 = Non-heat pump system
   Press the **UP** or **DOWN** button to select.
   Press the **RIGHT** button to advance to the next screen.
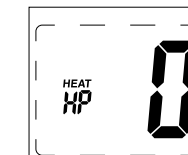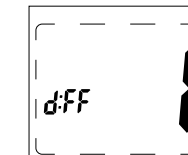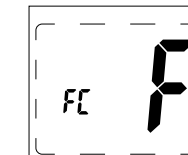
HEAT HP 0

4. **Lockout** (0-8°) – Select the number of degrees set temperature can be changed during keypad lockout
   Press the **UP** or **DOWN** button to select.
   Press the **RIGHT** button to advance to the next screen.

L OC 00
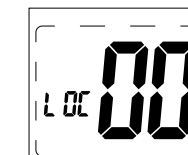
5. **Maximum Heat Setpoint** (45°F to 90°F) (7°C to 32°C)
   Adjust to control the maximum heat set temperature allowed.
   Press the **UP** or **DOWN** button to select.
   Press the **RIGHT** button to advance to the next screen.

HI 90

6. **Minimum Cool Setpoint** (45°F to 90°F) (7°C to 32.0°C)
   Adjust to control the minimum cool set temperature allowed.
   Press the **UP** or **DOWN** button to select.
   Press the **RIGHT** button to advance to the next screen.

LO 45

7. **Room Temperature Offset** (+9°F to -9°F) (+5°C to -4°C)
   Adjust to calibrate displayed room temperature to match actual room temperature.
   Press the **UP** or **DOWN** button to select.
   Press the **RIGHT** button to advance to the next screen.

CAL 0

8. **Maximum Cycles Allowed Per Hour** (- -, 2-6)
   - - = as many as needed, 2-6 = maximum cycles/hour
   Press the **UP** or **DOWN** button to select.
   Press the **RIGHT** button to advance to the next screen.

CYc - -
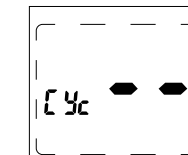
9. **Back Light** (0 or 1)
   0 = Back light never on (best for long battery life)
   1 = Back light on when button pressed
   Press the **UP** or **DOWN** button to select.

LtE 1
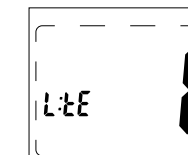
Press configuration button for 2 seconds to exit the configuration screen.

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.

Time — 12:00 PM 72 — Room Temperature

OFF Indicator — OFF
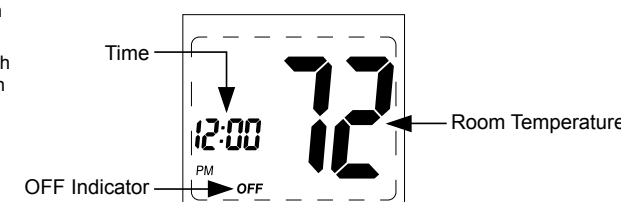
Testing the Thermostat

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 system switch 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.
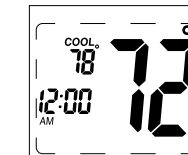
Heat Test

1. Slide system switch 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.
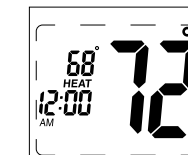
Fan Test

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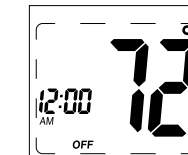
Operating Modes

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 **PROG** 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 **PROG** 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 Function

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 system switch to the center position. You are in the **OFF** mode.
2. Press and hold the **PROG** button (left) and **RIGHT** button (simultaneously) in for 6 seconds.
3. Time displays (hour flashing).
   Press the **UP** or **DOWN** button to adjust the hour.

4. Press the **RIGHT** button once to select minutes (minutes flashing).
   Press the **UP** or **DOWN** button to adjust the minutes.

5. Press the **RIGHT** button once to select day of the week (TODAY flashing).
   Press the **UP** or **DOWN** button to select current day of the week (01/Monday, 02/Tuesday, etc.).
   ❈ Note: At any time, press the **PROG** (left) button to return to the previous screen or press the **RIGHT** button to advance to the next screen.
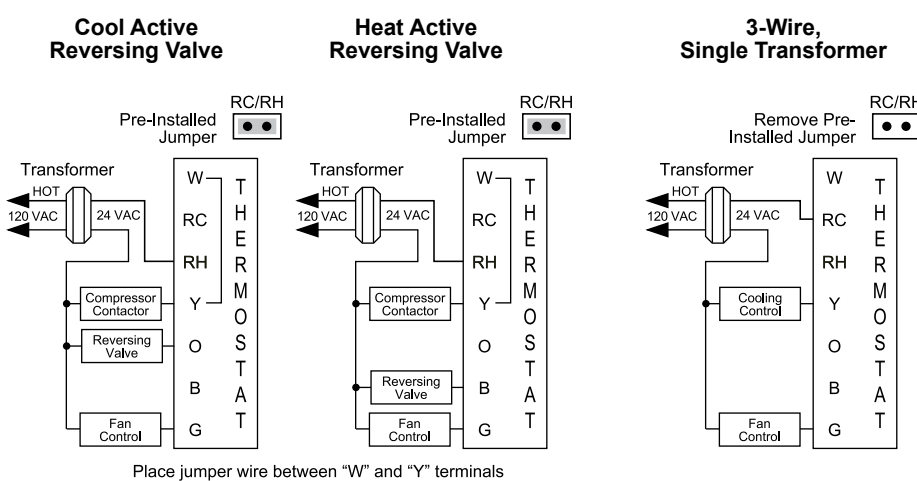
Press the **PROG** button and **RIGHT** button (simultaneously) in for 2 seconds to lock values into memory and return to the **OFF** mode or press the **RIGHT** button once to enter programming.