



SC 3801

Programmable Electronic Thermostat

2 Heat/2 Cool
7-Day Programmable
Hardwired

- Programmable and Configurable
- Single/Dual Stage Heat Pump Systems
- Single/Dual Stage Heat/Cool Systems
- Backlit Display
- Auto Changeover
- Simpleset® 7 Day Programming
- Compatible with Gas, Oil, or Electric
- Title 24 Compliant/No Batteries Required
- Relay Outputs
(minimum voltage drop in thermostat)
- Ideally Suited for:
 - Residential (New Construction/Replacement), Light Commercial



Owners Manual

For more information on our complete range of American-made products – plus wiring diagrams, troubleshooting tips and more, visit us at www.icmcontrols.com



Mode of Operation

The SC3801 is a programmable, auto changeover, two stage heat, two stage cool thermostat. It functions with air conditioning, heat pumps, gas, oil, or electric heat.

The thermostat activates a heating appliance when the room temperature is below the set heat temperature (by the differential temperature). The red status indicator may come on with first or second stage, depending on configuration. When the room temperature drops further, the second stage (auxiliary) heat is activated. The heating is staged off when the room temperature increases. With heat pumps, the thermostat will not let the compressor come on for four minutes after it turns off. This protects your compressor. Emergency heat mode can be used to bypass heat pump operation, making auxiliary heat first stage.

When the room temperature is greater than the set cool temperature (by the differential temperature), the first stage cooling device is activated. The green status indicator may come on with first or second stage, depending on configuration. If the room temperature increases, the second stage cooling device will be activated. The cooling is staged off when the room temperature decreases. The thermostat will not let the compressor come on for four minutes after it turns off. This protects your compressor.

The SC3801 has the following operating modes: OFF, Heat, Emergency Heat, Cool, Cool and Heat, and Program mode. In OFF mode, the thermostat will not turn on heating or cooling devices. The indoor fan can be turned on in all operating modes using the fan switch. In the Heat mode, the thermostat controls the heating system. Emergency Heat mode can be utilized if a heat pump malfunction occurs. In the Cool mode, the thermostat controls the cooling system. In the Cool and Heat mode, the thermostat controls both the cooling and heating systems. In Program mode, the thermostat will automatically be controlled by the set program. Program mode can function with Heat mode, Cool mode, Cool and Heat mode or OFF mode (for Programmable fan option only). The clock display alternates with the set temperature display for Cool and Heat mode.

The program schedule can be overridden by changing the set temperature (∨ or ∧). This puts the SC3801 thermostat into a 2-hour temporary hold. After 2 hours, it will automatically return to the program schedule.

The SC3801 also has a button lockout feature. This enables the thermostat to be set to the proper mode and temperature and locked so it cannot be tampered with.

Operating Modes

Program Overview These are the possible operating modes for the SC3801

OFF Mode

In this mode, the thermostat will not turn on the heating or cooling devices.

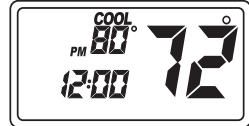
- ** **Note:** The indoor fan can be turned on manually in every operating mode by sliding the Auto/On switch to ON.
- ** **Note:** To enter Programming Fan Only Mode, press the > button once. Only the indoor fan will operate during that period if it is activated in the program setup.



Cool Mode

In this mode, the thermostat controls the cooling system.

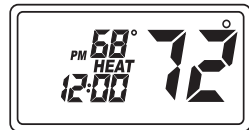
- ** **Note:** There is a four-minute delay for your compressor to restart after it has turned off.



Heat Mode

In this mode, the thermostat controls the heating system.

- ** **Note:** For heat pumps, there is a four-minute delay for your compressor to restart after it has turned off.



Emergency Heat Mode (Heat pump systems only)

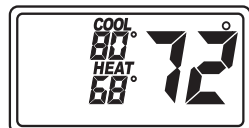
In this mode, heat pump system will be bypassed and auxiliary heat becomes first stage heat.

- ** **Note:** **Enter** Emergency Heat from non-program heat mode by pressing the > button for 10 seconds.
- ** **Note:** **Exit** Emergency Heat by pressing the > button for 10 seconds.



Cool and Heat Mode

The thermostat controls the heating and cooling systems, automatically changing over from one to the other as required.

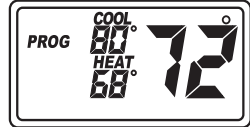


Operating modes continued on Page 4

Operating Mode (continued)

Program Mode

In this mode, the program function is on, and the thermostat will automatically be controlled by the set program. Program mode can function with Heat mode, Cool mode, Cool and Heat mode or OFF mode (for Programmable fan option only).



Press the > button to enter and exit program mode. PROG displays when in program mode.

Program Mode Hold

The program schedule can be overridden by changing the set temperature (∨ or ∧). After 2 hours, the program schedule will automatically be resumed. To return to the program schedule manually, press the > button twice.

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. Verify thermostat is in non-programmable mode (use the > button to exit prog mode).
2. Press and release < button until OFF mode displays.



3. Press the > button in for 6 seconds.
4. Press the ∨ or ∧ button to adjust the time.



5. Press the > button while the time is displayed. The display shows the day currently set on the thermostat (1=Monday, 2=Tuesday, etc).
6. Press the ∨ or ∧ button to set the correct day of the week that today is.



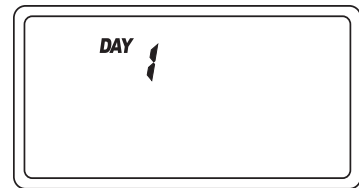
** **Note:** Press the > button in for 5 seconds to lock values into memory or press the > button once to enter programming.

Programming

Program Overview

The SC3801 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, cool temperature and programmable fan. The SC3801 monitors the day and time, while maintaining the specific conditions you have chosen for each period in your program.

1. Verify thermostat is in non-programmable mode
(use the > button to exit prog mode).
2. Press and release the < button until OFF mode displays.
3. Press the > button for 6 seconds.
4. Press the > button twice.
 - Day is displayed (1-7)
5. Press the ∨ or ∧ button to change the day you want to program
(1=Monday, 2=Tuesday, etc).
6. Press the > button to advance to the next screen.
 - ** **Note:** You can always press the < button to return to the previous screen.
 - Period is displayed (MORN, DAY, EVE, NITE)
7. Press the ∨ or ∧ button to change period of day.
8. Press the > button to advance to the next screen.



Programming (continued)

- Set time is displayed

9. Press the \vee or \wedge button to change set time.

10. Press the \rangle button to advance to the next screen.

- ** **Note:** Transitions required after 11:59 PM must be programmed in the next day's MORN period.

- Heat temperature is displayed (50°F to 90°F)

11. Press the \vee or \wedge button to adjust heat set temperature.

12. Press the \rangle button to advance to the next screen.

- Cool temperature is displayed (45°F to 85°F)

13. Press the \vee or \wedge button to adjust cool set temperature.

14. Press the \rangle button to advance to the next screen.

- Programmable fan is displayed

15. Press the \vee or \wedge button to turn ON/OFF continuous indoor fan for that period.

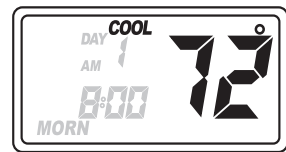
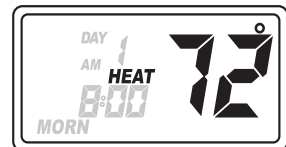
16. Press the \rangle button to advance to the next screen.

Repeat steps 1-16 to program each day of the week individually or use the Simpleset[®] feature (see Page 7) to program every day the same as Monday.

Press the \rangle button for 5 seconds to exit programming and return to the OFF mode.

Press the \langle button to select the correct operating mode.

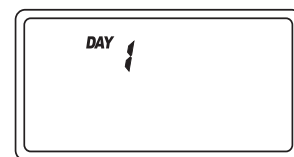
Press the \rangle button to enter and exit program mode. PROG displays when in program mode.



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 5), you are at the Day 2 screen:

1. Press the \vee button once. Day 1 screen displays.
2. Press the \vee 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. Press \rangle button for 5 seconds to exit Program mode and return to the OFF mode.



Lockout Feature

The SC3801 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 16, Page 22 of the Installation, Operation & Application Guide.

To activate the LOC feature:

1. Press the \langle button and hold it in.
2. Also press \rangle button and keep both depressed for 10 seconds.
3. LOC will display and the Lockout Function will be enabled.

To deactivate the LOC feature, repeat steps 1 & 2 above (in this section).



Factory Preprogramming

The SC3801 comes preprogrammed with the following schedule:

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

* = Programmable fan option

Personal Program Schedule

Use the following personal program schedule to record your settings:

MONDAY 1	MORN	6:00 AM	DAY	8:00 AM	EVE	6:00 PM	NITE	10:00 PM
	HEAT		HEAT		HEAT		HEAT	
	COOL		COOL		COOL		COOL	
	FAN*	ON/OFF	FAN*	ON/OFF	FAN*	ON/OFF	FAN*	ON/OFF

* = Programmable fan option

Personal Program Schedule (continued)

TUESDAY 2	MORN		DAY		EVE		NITE	
	HEAT		HEAT		HEAT		HEAT	
	COOL		COOL		COOL		COOL	
	FAN*	ON/OFF	FAN*	ON/OFF	FAN*	ON/OFF	FAN*	ON/OFF

WEDNESDAY 3	MORN		DAY		EVE		NITE	
	HEAT		HEAT		HEAT		HEAT	
	COOL		COOL		COOL		COOL	
	FAN*	ON/OFF	FAN*	ON/OFF	FAN*	ON/OFF	FAN*	ON/OFF

THURSDAY 4	MORN		DAY		EVE		NITE	
	HEAT		HEAT		HEAT		HEAT	
	COOL		COOL		COOL		COOL	
	FAN*	ON/OFF	FAN*	ON/OFF	FAN*	ON/OFF	FAN*	ON/OFF

Personal Program Schedule (continued)

FRIDAY
5

MORN	
HEAT	
COOL	
FAN*	ON/OFF

DAY	
HEAT	
COOL	
FAN*	ON/OFF

EVE	
HEAT	
COOL	
FAN*	ON/OFF

NITE	
HEAT	
COOL	
FAN*	ON/OFF

SATURDAY
6

MORN	
HEAT	
COOL	
FAN*	ON/OFF

DAY	
HEAT	
COOL	
FAN*	ON/OFF

EVE	
HEAT	
COOL	
FAN*	ON/OFF

NITE	
HEAT	
COOL	
FAN*	ON/OFF

SUNDAY
7

MORN	
HEAT	
COOL	
FAN*	ON/OFF

DAY	
HEAT	
COOL	
FAN*	ON/OFF

EVE	
HEAT	
COOL	
FAN*	ON/OFF

NITE	
HEAT	
COOL	
FAN*	ON/OFF

Troubleshooting

Symptom	Remedy
No display	Check for 24 VAC at thermostat; display is blank when 24 VAC is not present
System fan does not come on properly	Verify wiring is correct, check electric heat setup in configuration (see "Configuration Mode," Page 19 in the Installation, Operation and Application Guide)
Program schedule activates at the wrong time	Check time (AM/PM) set on thermostat (see "Setting the Time," Page 26 in the Installation, Operation and Application Guide)
Thermostat turns on and off too frequently	Adjust temperature differential (see "Differential," Steps 5 and 6, Page 20 in the Installation, Operation and Application Guide)
Thermostat does not follow program	Verify it is operating in Program mode (PROG displays); check time (AM/PM)
Fan runs continuously	Check fan On/Auto switch; check programmable fan setting in program; check fan settings in configuration (see "Configuration Mode," Page 19 in the Installation, Operation and Application Guide)
Room temperature is not correct	Verify wall hole is plugged with putty or insulation; check wiring and location for remote sensor if used
LOC displays when any button is pressed or thermostat buttons are inoperative	Thermostat has the button lockout function activated (see "Lockout Function," Page 29 in the Installation, Operation and Application Guide)
EH shows on display	Thermostat is in Emergency Heat Mode (see "Operating Modes," Page 25 in the Installation, Operation and Application Guide)
Very limited setpoint adjustment	Thermostat has the button lockout function activated (see "Lockout Function," Page 29 in the Installation, Operation and Application Guide) Check configuration mode settings 17 and 18 on Page 22 in the Installation, Operation and Application Guide
Problem not listed above	Press Reset button once*

* **Reset Button Function** Time, day and mode changed to last saved settings (saved after power loss or when exiting program setup), configuration and program settings are unchanged.

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.



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

LIA155-4