Operating Instructions

7 Day Programmable Thermostat

Auto Changeover, 1 Heat/1 Cool

New & Improved Features

Your new electronic programmable thermostat has been made even better by the introduction of several new and improved features. Building upon it's reputation for efficient and dependable operation, your thermostat now offers the following list of enhancements.

Progressive Recovery (available on programmable models)
Selecting progressive recovery on your programmable thermostat causes the thermostat to anticipate the programmed setpoint change, thus allowing the climate-controlled area to reach the desired setpoint when required. The Progressive Recovery option is selected by pressing the Fan and Program buttons simultaneously.

Thermostat and Sensor Calibration
Release 3 provides easy calibration of the thermostat and remote sensors. Simply press and hold the fan button for 10 seconds and adjust with the up or down buttons.

Programming Revert Time Extended
The programming revert time has been extended to 2 minutes.

Push Button Auto Repeat
Programming is easier with the push button auto repeat feature.

Extended Backup Time
The power failure backup time has been increased to 2 hours.

The Button Functions

Clock Press to set current day, hour and minute

Set Temp Press to set the Heating and Cooling setpoints

Program Press to set program days and start times. Press simultaneously with the *Fan* button to select progressive recovery.

Hold Press to hold the current setting. The program will hold indefinitely or until *Resume* is pressed.

Outdoor Press to display the outdoor temperature (optional)

Mode Press to select Cool only, Heat only,Auto(Cool & Heat) or Off

Fan Press for continuous Fan or Auto Fan

Resume Press to exit the hold or override program or when programming is complete

Press down or up buttons during programming and overrides to lower or raise setpoints and change the day and time

Selecting Fahrenheit Or Celsius Display
Simultaneously press the ▼ and ▲ button to switch between Fahrenheit and Celsius.

Changing The Clock From 12 to 24 Hour
To change the time indicated from 12 hour to 24 hour, press and release the *Clock* button, then press the *Mode* button.

Understanding 7 Day Programming

It is recommended that you read and understand these instructions before you attempt to program your new thermostat.

Programming your thermostat involves selecting the temperature you want in your home and selecting the time you want it to be that temperature.
Each time schedule is known as an 'event'. An event ends at the same time that the next event begins so only a starting time for each event is required.

Your thermostat allows you to choose between a 2 event (DAY and Night) or 4 event schedule. This is a DIP switch selectable option. For a more detailed description of event options refer to "DIP Switch Options And Functions".

Event = Morning, Day, Evening, Night
Event time = the time the event starts
Event Setpoint = the temperature set during the event:
each event can have only one heat and one cool setpoint

The Morning event is typically when you wake up and is the first event of the day. The Day event is normally set when you leave for work. The Evening event is usually set for when you arrive home. The Night event is set when you go to bed.

Each event will have two (2) temperatures, 1 heating temperature and 1 cooling temperature. The cooling temperature must be at least 2 degrees Fahrenheit higher than the heating temperature. The Event Setpoints are programmed once for all seven (7) days. The thermosat allows a different program for each day of the week. Complete the chart labeled "Set your Personal Schedule" with your desired temperatures and time schedules before beginning programming.

To exit programming at any time press and release the Resume button, or 2 minutes after pressing the last button the display will automatically change to the normal display.

Programming The Thermostat

Setting The Current Day And Time
1. Press and release the *Clock* button. The display will flash MO for Monday.
2. Press the ▼ or ▲ button until the current day appears on the display.
3. Press the *Clock* button to select the hour. The display will flash 12:
4. Press the ▼ or ▲ button until the current hour appears on the display. Be sure the AM or PM corresponds to the proper time.
5. Press the *Clock* button once again to set the minutes. The display will flash :00 .
6. Press the ▼ or ▲ button until the current minutes appear on the display.
7. Press Resume or wait for regular display to appear

You have now set the current day and time on the thermostat and are ready to begin programming the details of the events and setpoints.

Program The Events
The event programming procedure that follows assumes the thermostat is set for 4 events per day *(DIP switch number 1 set in the OFF position)*. If you require only 2 events per day you may change this option by setting your number 1 DIP switch to the ON position. Refer to DIP Switch Options And Functions for details. The programming procedure remains the same except that you will not have the option of programming for the *Morning* or *Evening* events.
1. Press and release the *Set Temp* button.
2. You will see a Morning or Day ☼ icon
   * a heating ♨ or cooling ❄ icon
   * a flashing setpoint 18 (temperature)
3. Select the desired setpoint by pressing the ▼ or ▲ button
4. Press and release the *Set Temp* button to move to the next event. Continue until all the Morning, Day, Evening and Night event Heating and/or Cooling setpoints are programmed.

Setting The Event Start Times

1. Press and release the *Program* button
2. You will see, a Morning , heating ♨ or cooling ❄ icon, setpoint 18 , flashing MO (Monday) or current day of the week
3. Select the desired weekday by pressing the ▼or ▲ button
4. Press and release the *Program* button
5. Select the desired hour by pressing the ▼ or ▲ button
6. Press and release the *Program* button
7. Select the desired minute (if necessary) by pressing the ▼or ▲ button (in increments of 10 minutes)
8. Press and release the *Program* button to move to the next event
9. Repeat the process until all of the desired event start times have been programmed.

Copy The Events To Other Days
Once you have gone through the programming procedure for Monday, ending at the *Night* event, the word COPY will appear. You may choose to copy the 4 event start times to other days of the week. Press the ▼ button to display all the days of the week. Press the ▲ button to select the consecutive days of the week that you want the events to apply to. Press the Program button to do the copy.or Press the *Resume* button to return to the normal display.

Individual days
If certain days of the week require different event starting times follow the procedure below.
1. Press and release the *Program* button
2. Press the ▼ or ▲ button to advance the day indicator to the desired day.
3. Press and release the *Program* button to change the event hours and minutes to the desired starting times. As in "Setting The Events"
4. Press the *Resume* button to return to the normal display.

Skipping An Event (2 Methods)

Your personal schedule may not require the use of all 4 events on a particular day. For example, if you wish to go from the *Day* event directly to the *Night* event, skipping over the *Evening* event there are 2 methods you can apply;

A) - Press and release the *Program* button until you come to the day and the event hour on that day that you wish to skip.
- Press and hold down the *Program* button and at the same time press and release the *Mode* button. In the time display area you will see "__ : __" indicating that the event is skipped.

B) If any two or more events have the same start time, the latest event in the day has priority and therefore uses its setpoints.

Reviewing Scheduled Times
To review your program schedule repeatedly pressand release the *Program* button. Each of the scheduled events will be displayed starting with the temperature, day, hour and minute for each day of the week. To cancel your review, simply press and release the *Resume* button or wait 2 minutes for the thermostat to resume the display automatically.

Reviewing Programmed Temperatures
To review your programmed temperatures, repeatedly press the *Set Temp* button. The display will change to show the mode, event and the setpoint selected .

Viewing The Outdoor Temperature (Option)
If your thermostat has been installed with an electronic outdoor remote sensor, you may view the outdoor temperature simply by pressing the *Outdoor* button. Upon releasing the button, the thermostat will once again display the indoor temperature.

Temporary Temperature Override
To temporarily change the scheduled setpoint during an event without affecting the program press the ▼ or ▲ buttons to lower or raise the setpoints. The new setpoint will be retained for 3 hours and will not affect the programming schedule. To return to the regular program press the *Resume* button.

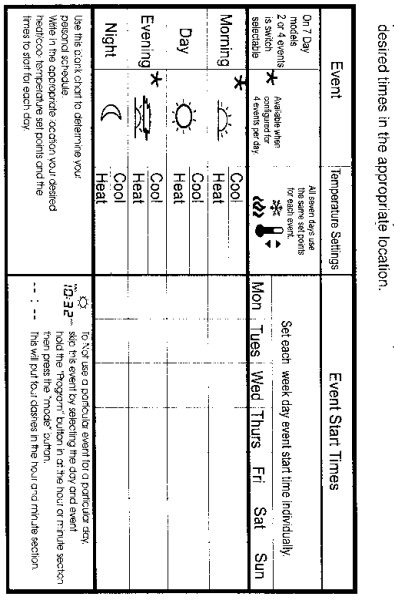
Temporary Temperature Override With Keypad Locked

(The keypad may be locked to prevent tampering by selecting the ON position of DIP switch number 4)
If the keypad is locked to prevent tampering you may still temporarily adjust the setpoint by ± 3° C or 6°F of the programmed morning (4 event) or day (2 event) setpoint without affecting the regular program. Press the ▼ or ▲ to raise or lower the setpoint for a 1 hour period. This override may not be cancelled by pressing the *Resume* button.

Constant Override
To maintain a temperature setting for an indefinite period of time, press and release the *Hold* button. The word "Hold" will appear on the LCD. The current scheduled setpoint will be maintained. To select a different setpoint, press the ▼ or ▲ button to raise or lower it. The last setpoint selected (scheduled or new) will be maintained continuously until the *Resume* button is pressed.

OFF Mode
To turn off the heating or cooling system, press the *Mode* button until the word 'OFF' appears on the LCD. It will remain displayed until the mode is changed. The OFF mode prevents the system from being energized. **Avoid** using the OFF mode during extremely cold weather to prevent damage to the equipment from freezing.

Auto Changeover Mode
To set the thermostat to automatically switch from heating to cooling mode by pressing the *Mode* button until the word Auto and both the heating ♨ and cooling ❄ icons appear on the LCD. The thermostat will energize the heating or cooling system based on the temperatures established for both modes.



Set Your Personal Schedule

This blank list is for your own use. Start by selecting your heat/cool temperature setpoints. Determine the times you want the temperatures to be active. Write in the desired times in the appropriate location.

Installation Instructions

It is recommended that installation be performed by a qualified installer.

Location

To ensure proper operation, the thermostat should be mounted on an inside wall in a frequently occupied area of the building. In addition, its position must be at least 18" (46cm) from any outside wall, and approximately 5' (1.5m) above the floor in a location with freely circulating air of an average temperature. You should avoid the following locations:

- behind doors or in corners where freely circulating air is unavailable;
- where direct sunlight or radiant heat from appliances might affect control operation;
- on an outside wall;
- adjacent to, or in line with, conditioned air discharge grills, stairwells, or outside doors;
- where its operation may be affected by steam or water pipes or warm air stacks in an adjacent partition space, or by an area behind the thermostat which is not climate controlled;
- where its operation will be affected by the supply air of an adjacent climate control HVAC device;
- near sources of electrical interference such as arcing relay contacts;

Removing The Thermostat From The Subbase

1. Insert a flat blade screwdriver or a coin 1/8" into the slot located in the bottom center of the thermostat case and twist 1/4 turn. When you feel or hear a "click", grasp the case from the bottom two corners and separate from the subbase.
2. Swing the thermostat out from the bottom.
3. Lift the thermostat up and off the subbase.
4. Place the rectangular opening in the subbase over the equipment control wires protruding from the wall and, using the subbase as a template, mark the location of the two mounting holes (exact vertical mounting is necessary only for appearance).
5. Use the supplied anchors and screws for mounting on drywall or plaster; drill two 3/16" (5mm) diameter holes at the marked locations; use a hammer to tap the nylon anchors in flush to the wall surface and fasten subbase using the supplied screws. (Do not overtighten!)
6. Connect the wires from your system to the thermostat terminals. Carefully dress the wires so that any excess is pushed back into the wall cavity or junction box. Ensure that the wires are flush to the plastic subbase. The access hole should be sealed or stuffed to prevent drafts from the wall affecting the thermostat.

Replacing The Thermostat on Subbase

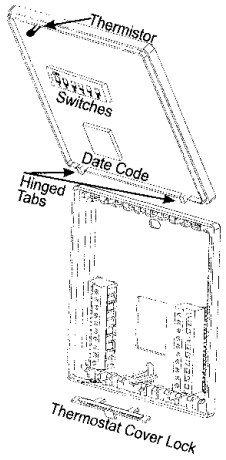
1. Position the thermostat on the hinged tabs at the top of the subbase.
2. Gently swing the thermostat down and press on the bottom center until it snaps into place.

Thermostat Cover Lock

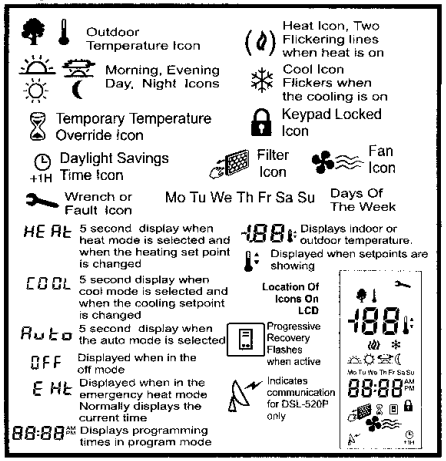
Insert the plastic lock piece into the bottom of the mounted base. The ends of the lock piece fit snugly under the lock pins extending from the bottom of the mounted base. The tab in the middle of the lock piece extends down from the base.
To release the locking mechanism, press the lock piece up and into the base while gently prying open.

Thermistor Mounting Instructions

When placing the front cover on the thermostat ensure the thermistor is not bent or misaligned.
Ensure that the thermistor does not touch the thermostat case. The thermistor should be placed horizontal to the wall. Ensure the thermistor is not pushed upward into the case.
The thermistor should be aligned so it is visible between the ribs on the bottom of the subbase.



Description Of Icons



Display icons vary according to the model. Your thermostat may not display all of the icons shown.

Power Outages & Power Failures During Regular Program Schedule

Should your power fail at any time during the regular program, the thermostat will maintain the clock internally for up to 1 hour. If the power has not been restored during this time period, the clock will stop. When the power is

The thermostat will be held in the Night program until the user resets the clock. The thermostat will display "AC" when the 24 VAC is not powered. One of the unique features of your thermostat is that there is no battery required to maintain your selected setpoints in the event of a power loss, since the memory is unaffected by power failures of any duration. There is no reason to re-program the setpoint temperatures or start times since the thermostat will retain these program parameters.

1(One) Year Limited Warranty

The manufacturer warrants to the original purchaser that its product and component parts will be free from defects in workmanship and materials for a period of 1 (one) year from the date of purchase. Return to the original point of purchase for replacement of your product.

Warranty Limitations

This warranty begins at date of purchase.

Warranty is Void if:

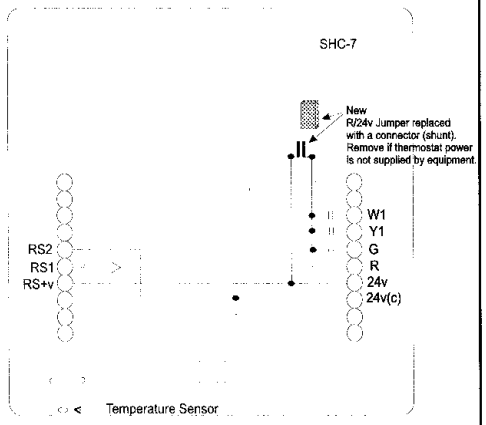
The date code is defaced or removed.
The product has a defect or damage due to product alteration, connection to an improper electrical supply, shipping and handling, accident, fire, flood, lightning, or other conditions beyond the control of the manufacturer.
The product is not installed according to the manufacturers instructions and specifications.
The product has been installed near sources of electromagnetic interference (EMI) such as arcing relay contact.

Owner's Responsibility

Provide proof of purchase
Provide normal care and maintenance.
Pay for freight, labour and travel.
Pay for service calls related to product installation.
Return any defective product.
In no event shall the manufacturer be liable for incidental or consequential damages.
This warranty gives you specific legal rights and you may have others which vary by state and/or province. For example, some states and/or provinces do not allow the exclusion or limitation of incidental or consequential damages so this exclusion may not apply to you.
The manufacturer's continuing commitment to quality products may require a change in specifications without notice.

This equipment, if installed in strict accordance with the manufacturer's instructions, complies with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC rules.

Wiring Diagram



Note: If the 24V(c) is not available from the equipment the jumper may be removed and a separate 24v transformer must be used to power the thermostat.

This thermostat may be used with 24 Volt DC. The negative side of the DC supply must be wired to the 24v(c) terminal.

Terminal Designations

W1.....Energizes on a call for heating

Y1.....Energizes on a call for cooling

G.....Fan is energized with a call for heating or cooling or by pressing the *Fan* button.

R.....Power from equipment

24V.....24 VAC Hot and Common to power the thermostat
24V(c)

RS2.....Use to connect up to 6 (SL-IDS) Indoor and or 1 (SL-ODT)
RS1 Outdoor remote sensor/s.
RS+V When connected the thermostat will automatically use the the SL-IDS temperature sensor and not its own. Refer to the instructions included with the sensor

Calibration

Depress the *Fan* button for 10 seconds. The thermostat display will change to calibration. Adjust the calibration by depressing the ▼ or ▲ buttons.

DIP Switch Options And Functions

Positioning the DIP switches in either the ON or OFF position enables you to choose between two different options. The Dip switches are located on the interior of your thermostat and may be accessed by following the procedure for removing the thermostat from the subbase. The following list describes your DIP switch options.

DIP Switch No.	DIP Switch OFF	DIP Switch ON
1	4 Events per day	2 Events per day
2	Smart Fan disable	Smart Fan enable
3	4 Minute min. ON	2 Minute min. ON
4	Keypad Unlock	Keypad Lock
5	Fan immediate with heat call	Fan on with plenum switch

1. 2 Events or 4 Events You may select either a 2 or 4 event schedule. 2 Events include *Day* and *Night*, 4 Events include *Morning, Day, Evening* and *Night*.

2. Smart Fan With the Smart Fan switch in the ON position and the fan selected the thermostat will keep the fan running continuously during the occupied programs and automatically cycle the fan with a call for heating or cooling during the unoccupied program. *(The unoccupied program is the night event only).*

3. 2 Minute or 4 Minute On Times This option allows you to run the equipment for either a 2 or 4 minute minimum off and on time.

4. Keypad Lock In the ON position locks out all buttons except the Outdoor temperature button.

5. Plenum Fan Switch In the OFF position, the Fan comes on immediately with a call for heat. In the ON position, the Fan is controlled by the equipment (plenum switch control).

Specifications

Rated Voltage	20-30 Vac, 24 nominal
Rated A.C. Current	.050 Amps to 0.75 Amps continuous per output with surges to 3 Amp Max.
Rated D.C. Current	0 Amps to 0.75 Amps continuous per output with surges to 3 Amp Max.
Control Range	Heating:38 to 88°F in 1° Steps 5 to 30°C in 1° Steps Cooling:60 to 108°F in 1° Steps 16 to 40°C in 1° Steps
Thermostat Measurement Range	28 to 124°F or 0 to 48°C
Outdoor Temperature Range	-50 to 119°F or -48 to 47°C
Minimum Deadband	(between heating and cooling) 2°F or 1°C

NOTE: This thermostat contains electronic circuitry replacing the conventional mechanical anticipator.

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