Operating Instructions

5-2 Day Programmable Thermostat

Auto Changeover Programmable Heating And Cooling Thermostat 1Heat/1 Cool

111-128

(Temperature display in Fahrenheit or Celsius is a selectable option)

The Button Functions

Clock	Press to set current day, hour and minute
DST	Press to change from Standard Time to Daylight Saving Time
Program	Press to set program days, start times, heating and cooling setpoints
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

Understanding 5-2 Day Programming

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

Events and Temperatures (Setpoints)
Programming a 5-2 day thermostat is easy once you understand how it works. The 5 refers to the 5 weekday period, Monday through Friday. The 2 refers to the 2 weekend days, Saturday and Sunday. The weekday period is divided into 4 events. An event is a designated period of time during the day. The events are called Morning, Day, Evening and Night. Thus, the weekdays are divided into Morning, Day, Evening and Night or 4 events. The same holds true for the weekend days. Each of the 4 events is programmed for a cooling temperature. To exit programming at any time, press and release the RESUME button, or 15 seconds after pressing the last button the display will automatically change to the normal display.

For example, you may begin by programming the weekday Morning event setpoint to cool to 70˚F. As a result, every weekday Morning event will cool to 70˚F. Next select the Day event and a heating and/or cooling setpoint. Continue until you have programmed all 4 events in the same fashion. The setpoints that you have selected to represent your events will be consistent for the 5 weekdays. You will go through the same procedure to set the weekend events. **If you change a setpoint in any of the weekday or weekend events, it will change the corresponding setpoint for that particular event in either the weekday or weekend programs, whichever period the event occurs in.**

Event Start Times
You are only required to set a starting time for each event. An event ends at the same time that the next event begins. For example, you may choose to have the Morning event begin at 6:00 AM and the Day event begin at 9:00 AM. The Morning event and the temperature will automatically change to the Day event setpoint at 9:00 AM.
You must program the 4 events and their corresponding setpoints into your thermostat for both the weekday and weekend periods.

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 set 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.

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.

Adjusting the Clock for Daylight Saving Time
To adjust the clock for Daylight Saving Time, simply press and release the DST button on your thermostat. This will cause the hour to advance by 1 and the DST icon will be displayed. Pressing and releasing the DST button again will cause the clock to fall back 1 hour and remove the DST icon.

Selecting Fahrenheit or Celsius Display
Simultaneously press the ▼ and ▲ buttons 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.

Program the Weekday/Weekend Event Start Times and Heating Setpoints
The event programming procedure that follows assumes the thermostat is in the AUTO mode.

1. Press the PROGRAM button. On the display you will see MO TU WE TH FR, representing the weekdays, a Morning icon, a flashing starting hour, and a heating or cooling setpoint.
2. Select the desired starting time hour by pressing the ▼ or ▲ button. Be sure the AM or PM corresponds to the proper time.
3. Press and release the PROGRAM button to select the minutes.
4. Select the desired minute (if necessary) by pressing the ▼ or ▲ button (in increments of 10 minutes).
5. Press and release the PROGRAM button. The heating or cooling setpoint will flash.

6. Select the desired heating or cooling setpoint by pressing the ▼ or ▲ button.
7. Press and release the MODE button to select the opposite heating or cooling setpoint.
8. Select the desired heating or cooling setpoint by pressing the ▼ or ▲ button.
9. Press and release the PROGRAM button.
10. Continue until all the desired event start times and heating and/or cooling setpoints have been programmed. You may only require the Morning and Night programs. In this case you may skip the Day and Evening event. Refer to “Skipping an Event.”
11. Once you have set all of the weekday event start times and heating and/or cooling setpoints, press the PROGRAM button to move to the Weekend events, and SA SU will be displayed.
12. To program the weekend events simply repeat the steps used to program the weekday events. To exit programming at any time, press and release the RESUME button, or 15 seconds after pressing the last button the display will automatically change to the normal display.

Skipping an Event (2 Methods)
Your personal schedule may not require the use of all (4) four events on a particular day. For example, if you wish to go from the DAY event directly to the NIGHT event and skip over the EVENING event, there are two methods you can use:

A. Press and release the PROGRAM button until you come to the weekday or weekend event 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 and Setpoints
You may wish to review the program schedule. You may do this by repeatedly pressing and releasing the PROGRAM button. Each of the scheduled events will be displayed starting with the weekday start times and temperatures. To cancel your review, simply press and release the RESUME button, or wait 15 seconds for the thermostat to resume the display automatically.

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
You may on occasion wish to temporarily change the scheduled setpoint during an event. You may do this at any time without affecting the program. Simply 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. You may return to the regular program schedule by pressing the RESUME button.

Temporary Temperature Override With Keypad Locked
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 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
You may 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. **NOTE:** It is suggested that you set your desired Morning program times about 1 hour before the time that you actually require your home to reach the set temperature. If you normally wake at 7 AM, set the wake up temperature to come on at 6 AM. If you wish to skip a temperature, refer to “Skipping an Event.”

		Event	Start Time	Heat °F/°C	Cool °F/°C
Weekdays					
Weekend					

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 grilles, 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 unheated/uncooled area behind the thermostat
- where its operation will be affected by the supply air of an adjacent unit
- 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. Some models require more force than others when separating due to the number of terminals used.
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. Using the supplied anchors and screws for mounting on drywall or plaster, drill 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 as shown in the wiring diagrams. 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.

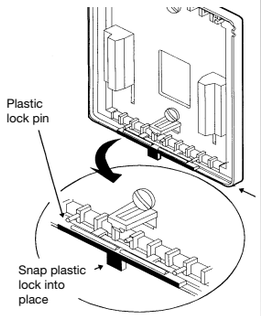
Replacing the Thermostat on the Subbase

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 edge until it snaps in place.

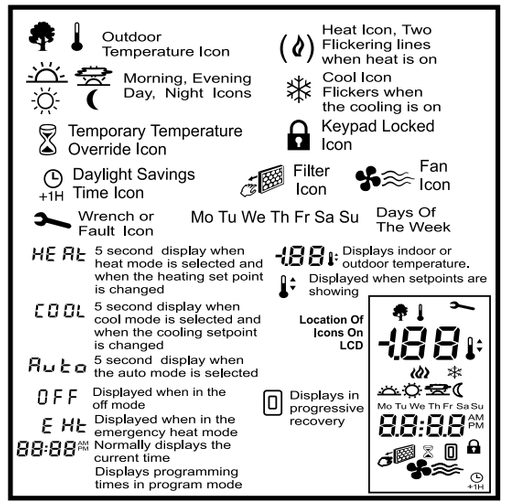
Thermostat Cover Lock

If desired, insert the plastic lock piece into the bottom of the mounted base. The ends of the lock piece should fit snugly under the lock pins extending from the bottom of the mounted base. The tab in the middle of the lock piece should extend downward from the mounted base.

To release the locking mechanism, press the lock piece up and into the base while gently prying open the cover at the same time. Use caution to avoid cracking the thermostat base or cover.



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 30 minutes. If the power has not been restored during this time period, the clock will stop. When the power is restored, the thermostat clock defaults to a flashing 12:00 AM.

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 reprogram the setpoint temperatures or start times since the thermostat will retain these program parameters.

2 (Two) 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 2 (two) years 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, labor 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.

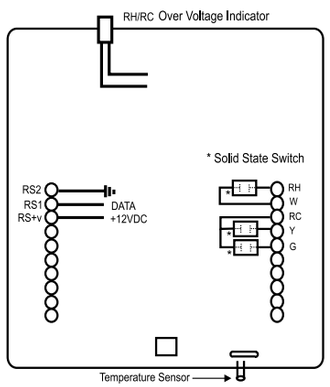
This equipment, if installed in strict accordance with the manufacturer's instructions, complies with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC rules.

Wiring Diagram

Installer's Note

This thermostat is equipped with a transformer wiring fault indicator which alerts to over voltage. If the red light is on when the wiring is complete, you must check the equipment to ensure that the transformer is wired according to the transformer wiring diagram.

Note: Continued use of the thermostat with the red light on will damage the thermostat.



Terminal Designations

RH .....24 VAC from the heating equipment transformer

W .....Energizes the heating equipment with a call for heating

RC .....24 VAC supply from cooling equipment transformer

Y .....Energizes cooling equipment with a call for cooling

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

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

Single Transformer

If the fault indicator (over voltage indicator) is on, the transformer exceeds the allowed 30 VAC. Replace the transformer.

Two Transformers

Separate or Single RH/RC Wire

If the fault indicator (overvoltage indicator) is on, the transformers are out of phase. Switch the secondary wires of one of the transformers (not both) and ensure that the red light goes off.

Installing the Resistor (Provided)

Programmable thermostats with solid state equipment outputs require a minimum of 80 mA AC (0.08A) of current draw to ensure switching integrity.

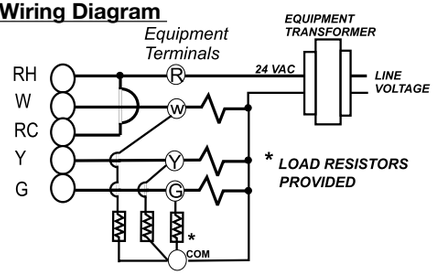
1. The installer must be a qualified service technician.
2. Read the instructions carefully. Failure to do so may damage the product or cause a hazardous condition.
3. Connect the resistor leads to the equipment terminal strip across the W,Y, or G (as required) and the 24VAC common terminals. Avoid contact with any other terminals or components within the equipment. Connect either end of the resistor to the terminals (nonpolarized) and firmly tighten the screw terminals.

Notice

The resistor will become warm during equipment operation. This is normal.

Transformer Wiring Diagram

If the transformer common terminal is not available, consult the equipment manufacturer.



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 minute minimum ON	2 minute minimum ON
2	Keypad unlock	Keypad lock
3	Fan immediate with heat call	Fan on with plenum switch

1. **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.
2. **Keypad Lock** In the ON position locks out all buttons except the outdoor temperature button.
3. **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 .....0.08 Amps to 1.5 Amps continuous per output with surges to 4 Amps 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

O.D.T. Displayed Range .....-50° to 119°F or -48° to 47°C

Control Accuracy .....±.5°C at 20°C
±1°F at 68°F

Minimum Deadband .....(between heating and cooling)
2°F or 1°C

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