Bosch Programmable Thermostat

2H/2C/Hum Touch-Technology Thermostat

BOSCH

Installation, Operation & Application Manual

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1 Key to symbols and safety instructions

1.1 Key to symbols

Warnings

Warnings in this document are identified by a warning triangle printed against a grey background.
Keywords at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

The following keywords are defined and can be used in this document:

- **DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- **CAUTION** indicates a hazardous situation which, if not avoided, could result in minor to moderate injury.
- **NOTICE** is used to address practices not related to personal injury.

Important information

This symbol indicates important information where there is no risk to people or property.

1.2 Safety

Please read before proceeding

WARNING:

- Always turn off power at the main power supply before installing, cleaning, or removing thermostat.

Read this manual carefully before installing or operating your new thermostat. Make sure to save this manual for future reference.

WARNING:

- This thermostat is for 24 VAC applications only; do not use on voltages over 30 VAC.
- 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.

WARNING:

- Do not use air conditioning when the outdoor temperature is below 50 degrees; this can damage your A/C system and cause personal injuries.

WARNING:

- Use this thermostat only as described in this manual.

WARNING: CLEANING AND MAINTENANCE

- Turn off the device and pull the plug before cleaning. Failure to do so can cause electrical shock.
- Do not clean the air conditioner with excessive amounts of water.
- Do not clean the air conditioner with combustible cleaning agents. Combustible cleaning agents can cause fire or deformation.

2 Thermostat specifications and features

2.1 Thermostat Controls

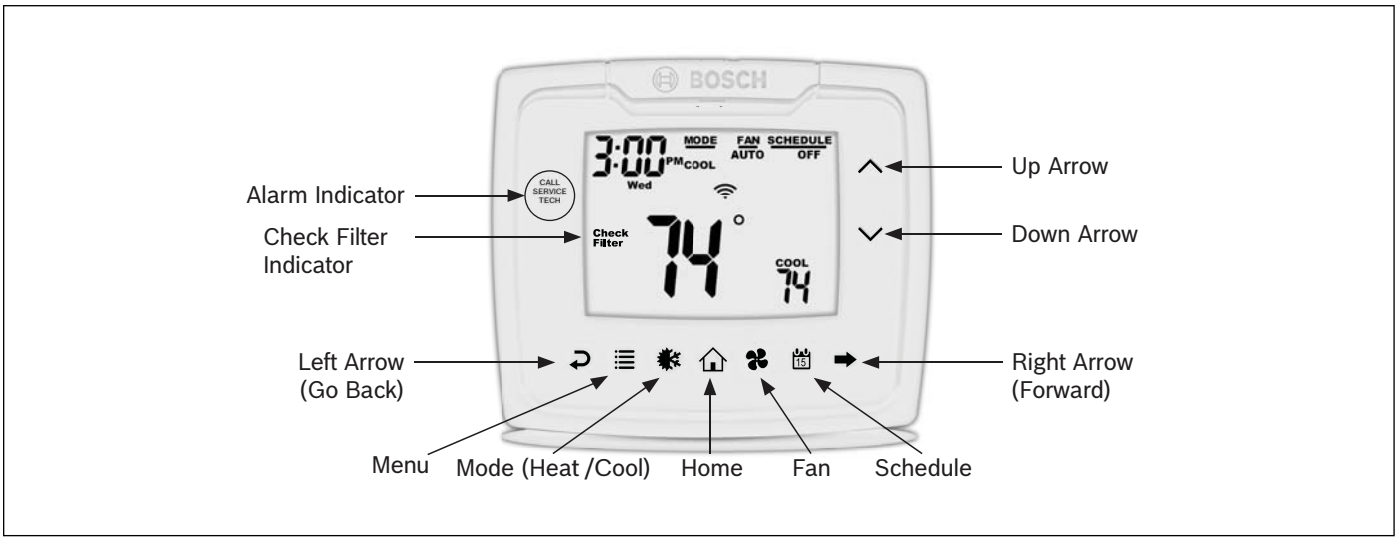


Figure 1

2.2 Thermostat features

- 7-Day, 5-2-Day, or 5-1-1- Day Programmable
- Configurable for Multiple Systems
- Large Display with Backlight
- Selectable Fahrenheit or Celsius
- Icon Indicator Lights
- Relay Outputs – Minimum Voltage Drop in Thermostat
- Ideally Suited for:
  - Residential (New Construction/Replacement)
  - Light Commercial
- Service Alarm
- Fault Detection and History

2.3 Package contents/tools required

Package includes:

- Thermostat, base
- Wiring labels
- Screws and wall anchors
- 2 “AA” Alkaline batteries
- Installation, Operation and Application Manual

Tools required for installation:

- Drill with 3/16” bit,
- Hammer
- Screwdriver

2.4 Specifications

Description	Value
Electrical Rating:	24 VAC (18-30 VAC), 1 amp maximum per output terminal, 5 amp maximum total load
DC Power:	3.0 VDC (2 “AA”Alkaline batteries)
Temperature Control Range:	45°F to 90°F (7°C to 32°C) Accuracy: ±1°F (±0.5°C)
Humidity Control	10% - 80%
Anti-short Cycle	4 minutes (bypass anti-short cycle delay by returning to OFF mode and pressing the ⌂ icon).
Backlight Operations:	15 seconds

Table 1

2.5 Spare parts

Spare part description	Bosch Part Number
Backplate (Baseplate)	8-733-945-500

Table 2

3 Installation

3.1 Removing existing thermostat

DANGER: ELECTRICAL SHOCK HAZARD

- ► Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to OFF position before removing the existing thermostat.

1. Turn off power to 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.

3.2 Battery installation and information

Two “AA” alkaline batteries are used for backup power only. They are installed into the back of the thermostat. Orient them in the correct direction as shown on the plastic thermostat case.

The batteries should be changed yearly to prevent leakage from damaging the thermostat and voiding your warranty.

If the batteries are not changed or low and the thermostat is not connected to 24 VAC or loses 24 VAC power, the thermostat will eventually display Er and conserve energy by maintaining a lower setpoint in heating and a higher setpoint in cooling.

3.3 Installing thermostat

DANGER: ELECTRICAL SHOCK HAZARD

- ► Turn off power at the main service panel by removing the fuse or switching the appropriate circuit breaker to OFF position before removing the existing thermostat.

CAUTION:

- ► Thermostat installation must conform to local and national building and electrical codes and ordinances.

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 heating & cooling system by removing the fuse or switching the appropriate circuit breaker off.
2. To remove sub base, pull it from the thermostat.
3. Put thermostat sub base against the wall where you plan to mount it (be sure wires will feed through the wire opening in the sub base of the thermostat).
4. Mark the placement of the mounting holes.
5. Set thermostat sub base and thermostat 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. Insert stripped, labeled wires in matching wire terminals. Tighten screws to secure wires.

CAUTION:

- ► Be sure exposed portion of wires does not touch other wires.

9. Gently tug wire to be sure of proper connection. Double check that each wire is connected to the proper terminal.
10. Install 2 “AA” batteries into back of thermostat.
11. Snap thermostat onto the sub base.
12. Turn on power to the system at the main service panel.
13. Configure thermostat to match the type of system you have.
14. Test thermostat operation as described in “Testing the Thermostat”.

4 Wiring diagrams

Factory installed jumper between RH and RC is required.
Thermostat is powered between RH & C.

4.1 Terminal designator descriptions

- **A** – Alarm/display (24 VACinput, switched from RH)
- **RC, RH** – 24 VAC hot
- **C** – 24 VAC common
- **Y1** – 1st stage cool, 1st stage heat for heat pumps
- **Y2** – 2nd stage cool for 2-stage or 2-compressor systems. 2nd stage heat for 2-stage or 2-compressor heat pump systems.
- **G** – Fan
- **W1/O/B** – Configurable
  - **W1** – 1st stage heat for non-heat pump systems
  - **O** – Cool active reversing valve
  - **B** – Heat active reversing valve
- **W2** – 2nd stage heat for 1 compressor heat pump and non-heat pump
- **AUX** – Humidifier or dehumidifier

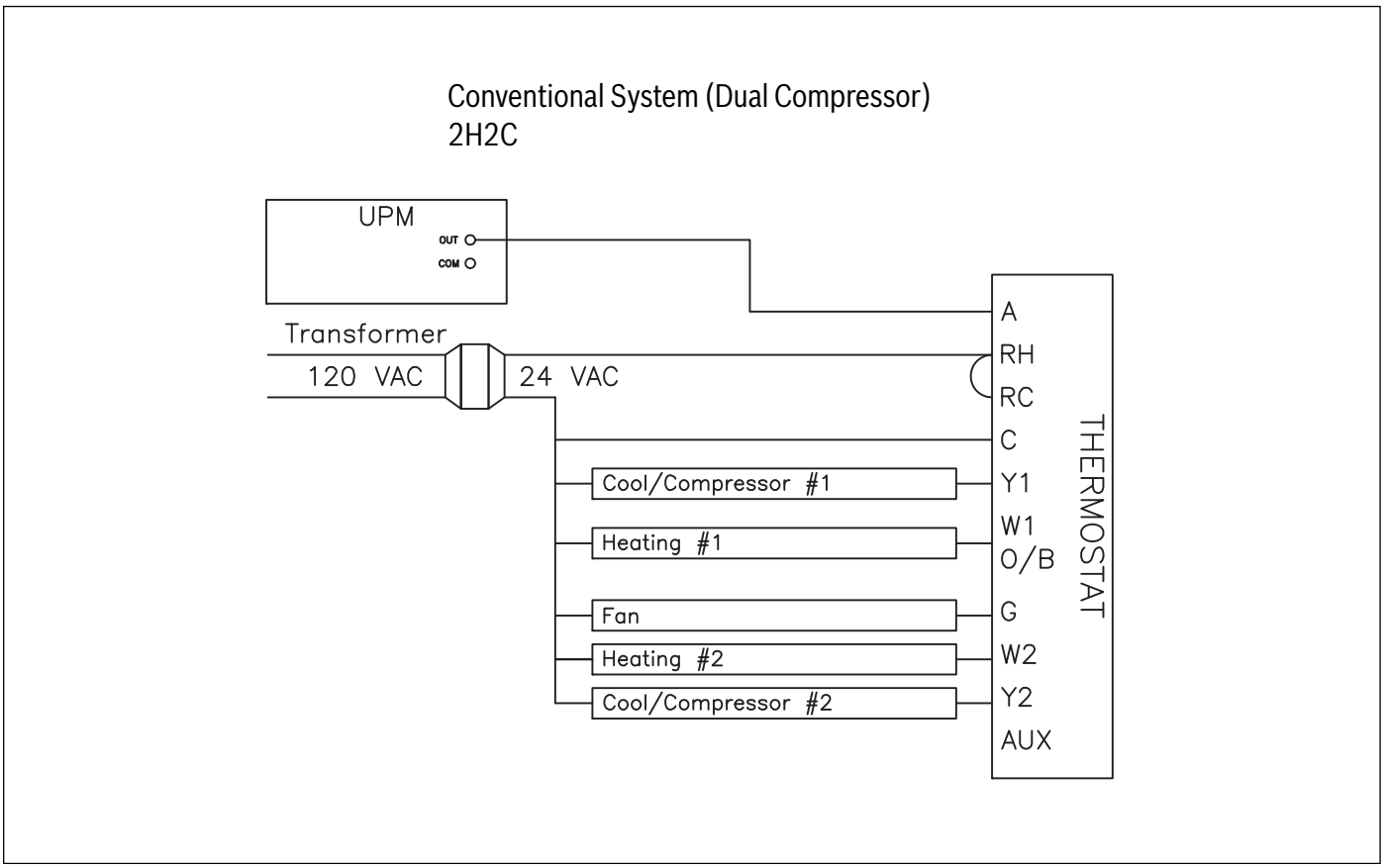
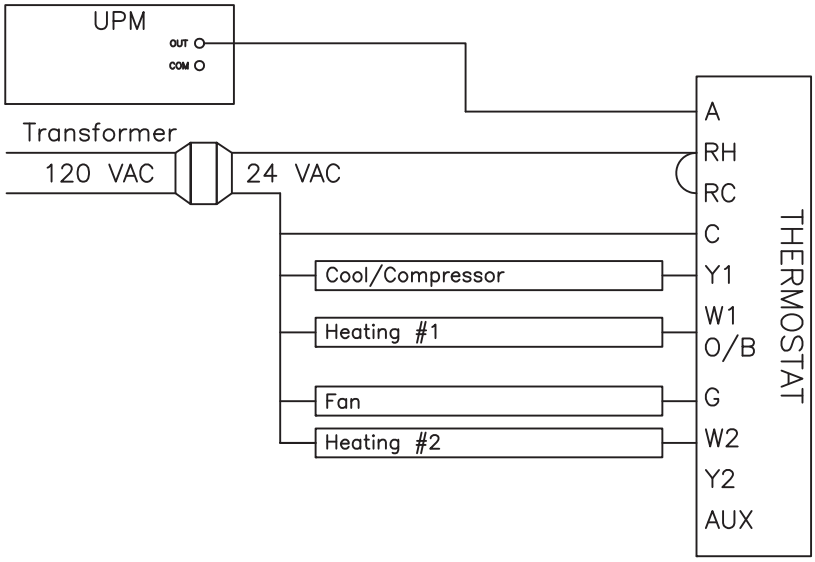


Figure 2

Conventional System (Single Compressor)
2H1C



Heat Pump System (Single Compressor)
2H1C

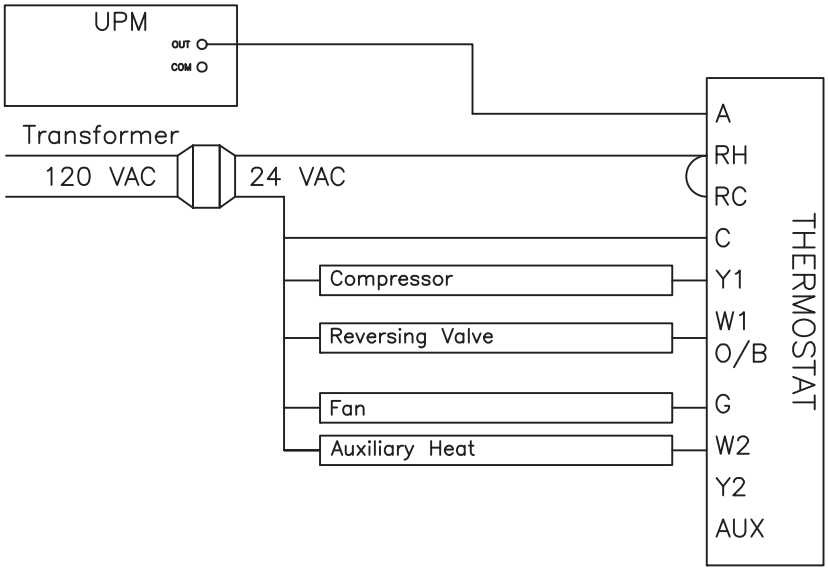
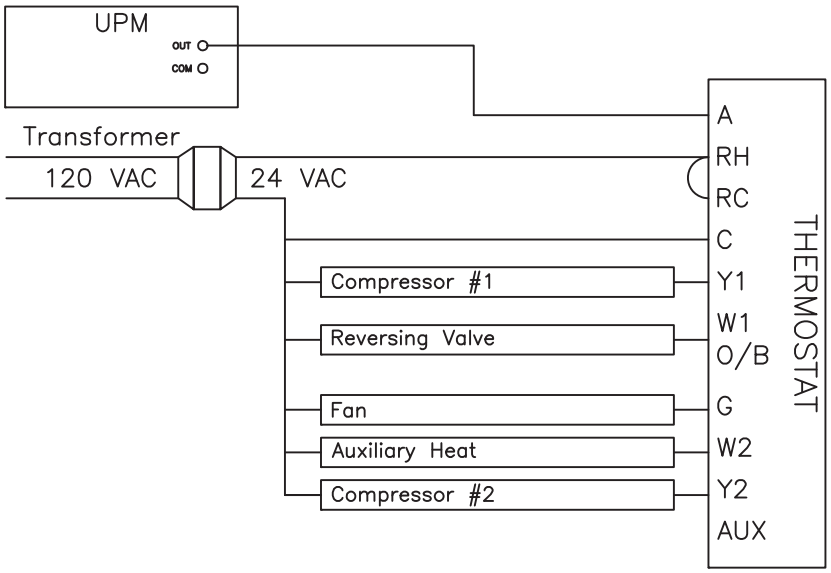


Figure 3

Heat Pump System (Dual Compressor)
3H2C



Heat Pump System (Dual Compressor)
With Hot Gas Reheat (Dehum)
3H2C

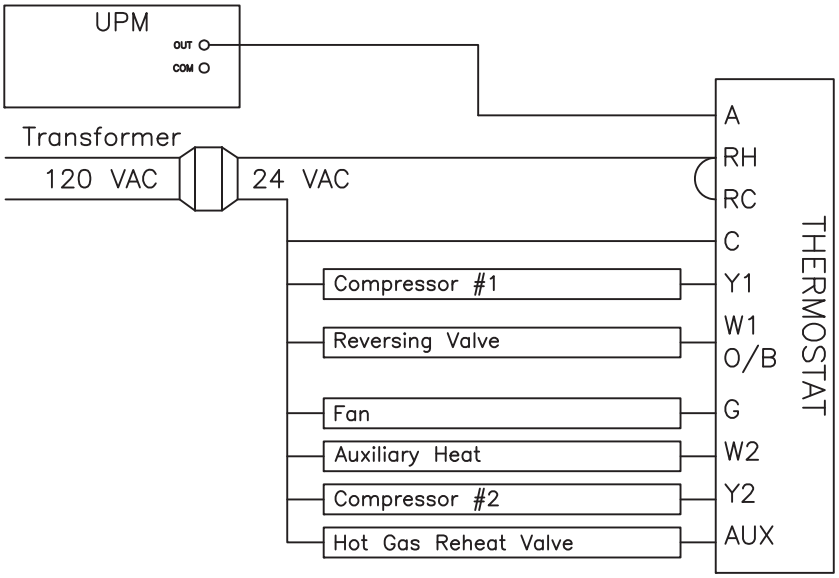


Figure 4

5 System setup and configuration

5.1 Connection to the UPM

The UPM's ALARM COM terminal should be connected to R on the UPM board (refer to unit manual for more information), and the ALARM OUT terminal should be connected to the A terminal on the thermostat. The UPM must be configured as described in Section 5.2.

5.2 Configuration of the UPM

The ALARM DIP switch on the UPM has to be set to the ON position ("PULSE"). Simply push the right side of this switch, so it is down on the right side and up on the left side.

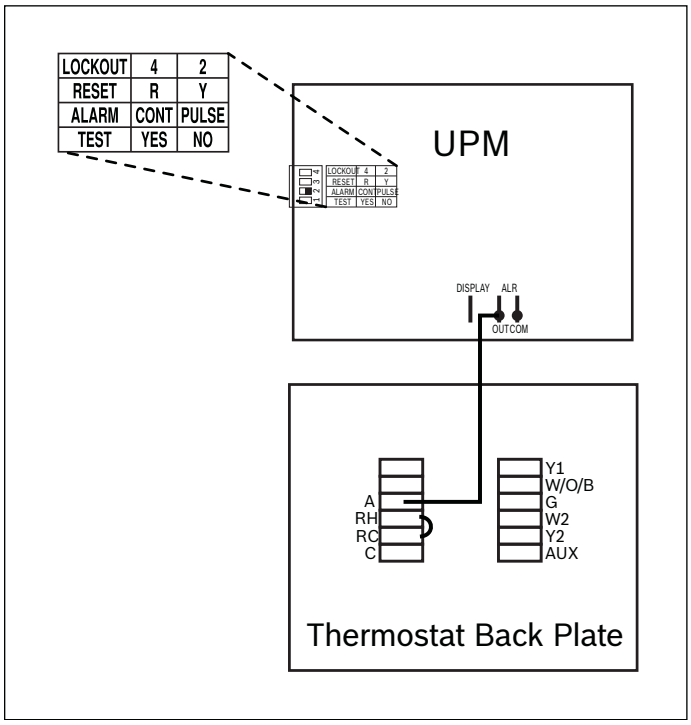


Figure 5

5.3 Output chart

The thermostat is configurable for all systems. The configuration directly affects the outputs. Use the output chart to correctly configure and wire the thermostat to your system.

Description	1st Cool	2nd Cool	1st Heat	2nd Heat
Heat/Cool	Y1, G	YI, G	W1, G*	W1, W2, G*
Heat Pump (one compressor)	Y1, G, O	Y1, G, O	Y1, G, B	Y1, W2, G, B
Heat Pump (two compressors)	Y1, G, O	Y1, Y2, G, O	Y1, G, B	Y1, Y2, G, B
Emergency Heat (heat pump only)	N/A	N/A	W2, G	N/A

Table 3

** G not on for gas/oil systems*

5.4 Humidity output chart

	(De)humidification Setting	With Humidity Control Demand
	No	N/A
Humidification Only	Heat	W
	Heat-Fan	W and/or G
Dehumidification Only	Cool-No	G only
	Cool-Fan	Y and/or G

Table 4

When in dehumidification mode and EAC is set to Cool-2, Y2 will energize to extend cooling cycle. See Configuration menu section

5.5 Configuration and thermostat lock

During Configuration Mode, certain settings are protected by a numeric code access screen to prevent unintentional changes that could potentially damage the system or create a dangerous condition.

Whenever changes are attempted to one of the critical settings, the unlock code screen will appear:

The unlock code for these critical settings can be found during the power-up sequence.

The large number (indicated by “98” in the diagram) is the code that will unlock the desired configuration setting. The smaller numbers (indicated by “93” and “82” in the diagram) are codes used to lock and unlock your thermostat to prevent tampering.

To view the default codes for your thermostat, remove the thermostat from the sub base and, if using batteries, remove one battery for 10 seconds. Replacing the batteries or reinstalling thermostat will cause the codes to display for approximately 5 seconds.

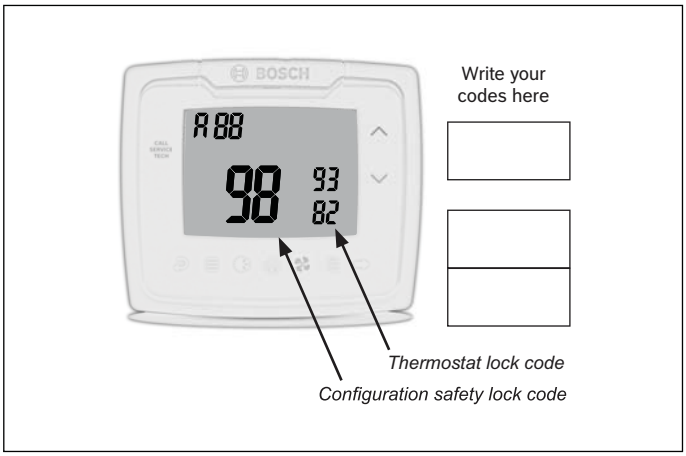


Figure 6

5.5 Locking & unlocking thermostat

- Press , then , then MENU LOCK, then
- Use & to select digit.
- Use & to set number.
- Press to lock or unlock.

5.6 Changing the lock code

To change the lock code, do the following:

1. Press , then press until Lock menu displays.
2. Enter the current lock codes. To find the current lock codes, follow the instructions under “Configuration and Thermostat Lock”.
3. Press to enter new lock codes.
4. Enter new lock codes.
5. Press . The Lock Codes have been updated.

Upon subsequent power ups, new lock codes will display.

5.7 Configuration mode

The configuration mode is used to set the thermostat to match your heating/cooling system. The thermostat functions with heat pump, air conditioning, gas, oil, or electric heat systems. To configure the thermostat, perform the following steps:

1. Press , then press repeatedly until **MENU CONFIG** is selected.
2. Press to advance from one screen to the next.

Pressing will return you to the previous screen.

3. Press the or to change settings within each screen. Changes are saved automatically.
4. To exit configuration mode, press . Auto exit occurs after two minutes with no icons touched.

5.8 Configuration mode settings

The setup screens for Configuration Mode are as follows:

- **Temperature Scale** (F or C)
  - Choose Fahrenheit or Celsius.
  - Press the or to select.
  - Press to advance to the next screen.

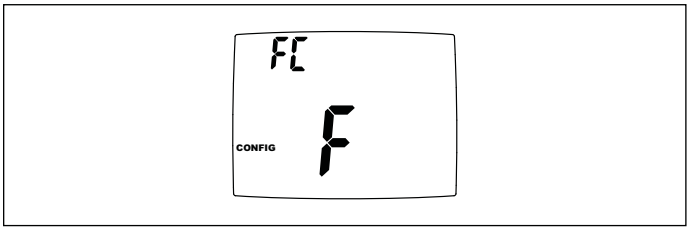


Figure 7

- **1st Stage Temperature Differential** (1°F to 5°F) (0.5°C to 2.5°C)
  - Set the number of degrees between your “setpoint” temperature and your “turn on” temperature.
  - Press the or to set differential value.
  - Press to advance to the next screen.

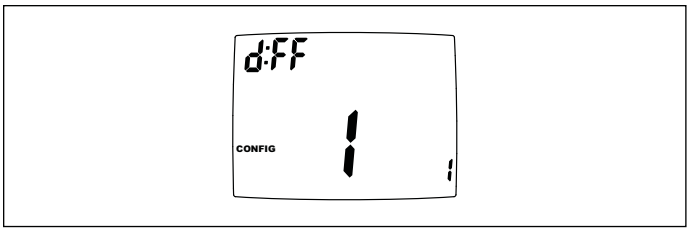


Figure 8

- **2nd Stage Temperature Differential** (1°F to 5°F) (0.5°C to 2.5°C)
  - Set the number of degrees between when stage 1 turns on and when stage 2 turns on.
  - Press the or to set differential value.
  - Press to advance to the next screen.

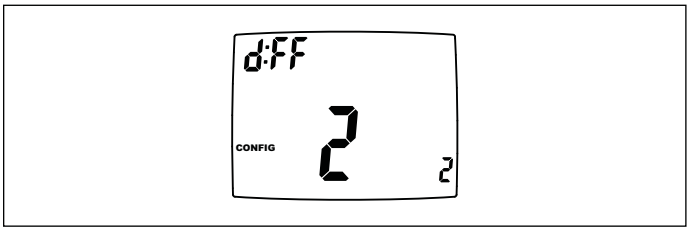


Figure 9

- **Staged Off Outputs**
  - Select whether the outputs for heating and cooling are staged off independently or are satisfied simultaneously.
  - no = Outputs off simultaneously (best for dual fuel). Y= Outputs staged off independently.

For 2 compressor heat pumps and multi-stage gas/oil systems, stage 3 is staged off independently when SO is set to no.

  - Press the ∧ or ∨ to set.
  - Press ➡ to advance to the next screen.

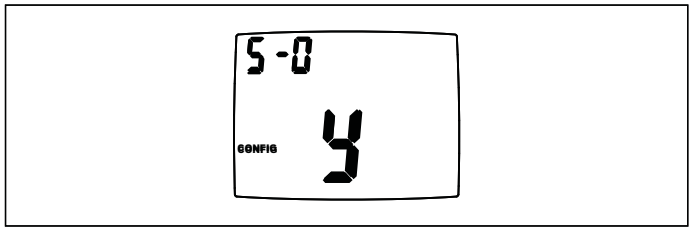


Figure 10

- **Minimum Deadband** (1°F to 9°F) (1°C to 5°C)
  - Set the minimum separation between heat setpoint and cool setpoint in Auto Changeover Mode.
  - Press the ∧ or ∨ to set deadband value.
  - Press ➡ to advance to the next screen.

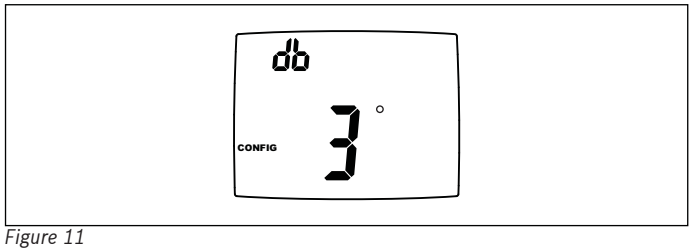


Figure 11

- **Heat Source:** There are six heat source settings:

WARNING:

- Incorrect settings can damage system and/or cause potentially dangerous conditions. Use the code described in Configuration and Thermostat Lock.

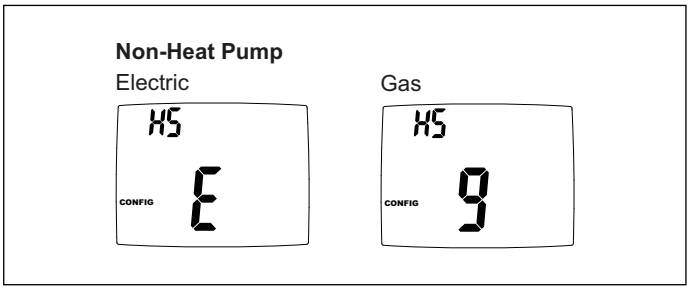


Figure 12

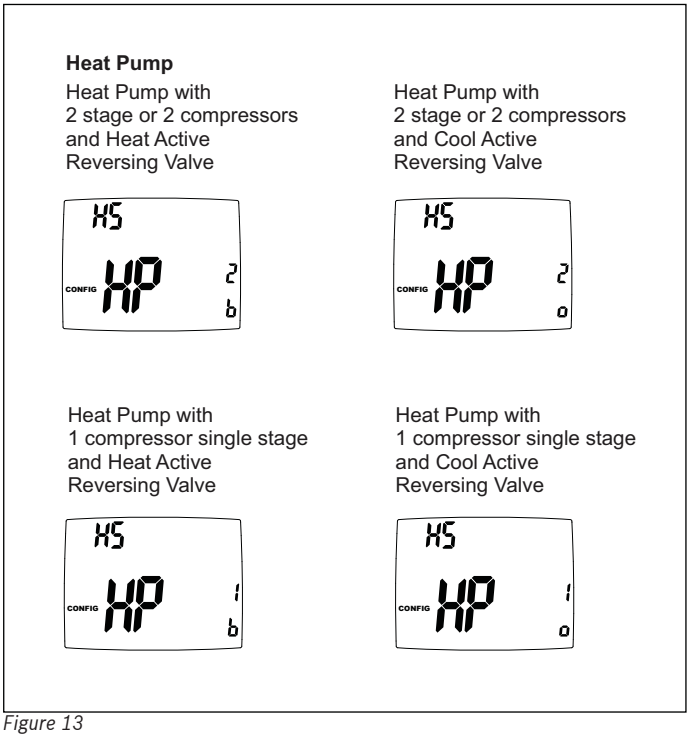


Figure 13

- **Auxiliary Delay** ON (0-60 minutes)
  - Set the delay time in minutes for auxiliary heat to be locked out after a call for second stage. This extra savings feature is used to temporarily lock out auxiliary heat devices, allowing just heat pump to try to satisfy heat call.
  - Press the ∧ or ∨ to select. Press ➡ to advance to the next screen.

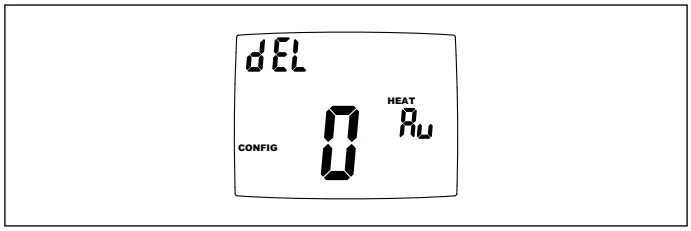


Figure 14

- **Lockout** (0-8°, SLEEP, COOL-HEAT)
  - Select the number of degrees set temperature can be changed during keypad lockout. **SLEEP** setting locks thermostat only during the sleep period to prevent after hours tampering.
    COOL-HEAT lockout allows adjustment of the set temperatures to the maximum heat set temperature selected and minimum cool set temperature selected.

The mode cannot be changed while the thermostat is locked.

Press the ∧ or ∨ to select. Press ➡ to advance to the next screen.

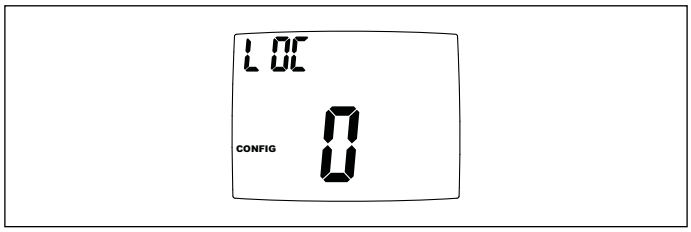


Figure 15

- **Maximum Heat Setpoint** (45°F to 90°F) (7°C to 32°C)
  - Adjust to control the maximum heat set temperature allowed.
  - Press the ∧ or ∨ to select. Press ➡ to advance to the next screen.

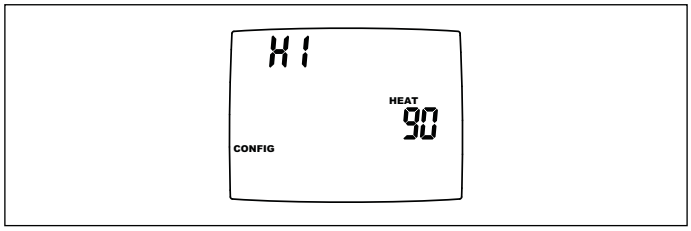


Figure 16

- **Minimum Cool Setpoint** (45°F to 90°F) (7°C to 32°C)
  - Adjust to control the minimum cool set temperature allowed.
  - Press the ∧ or ∨ to select. Press ➡ to advance to the next screen.

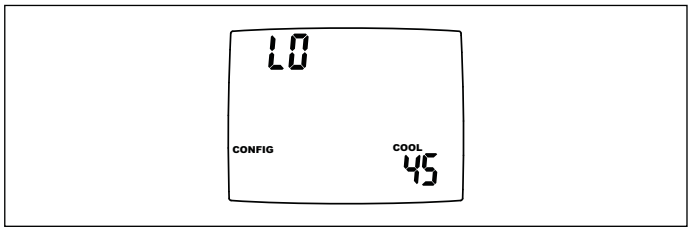


Figure 17

- **Vacation Cooling Setpoint**
  - These work in conjunction with the Schedule mode where you set the date and time of your RETURN from vacation.
  - Until that date/time, system will remain at the cooling setpoint specified here.
  - Press the ∧ or ∨ to select. Press ➡ to advance to the next screen.

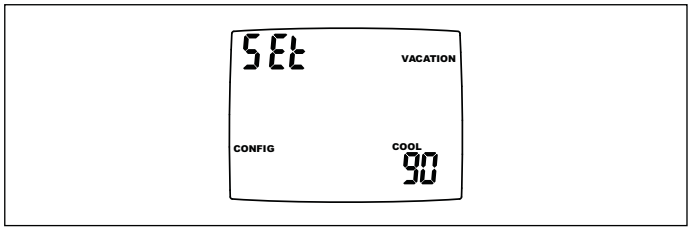


Figure 18

- **Vacation Heating Setpoint**
  - These work in conjunction with the Schedule mode where you set the date and time of your RETURN from vacation.
  - Until that date/time, system will remain at the heating setpoint specified here.
  - Press the ∧ or ∨ to select. Press ➡ to advance to the next screen.

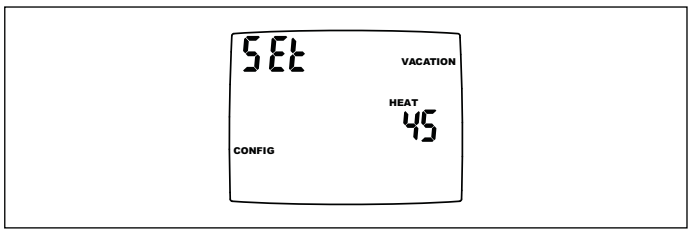


Figure 19

- **Room Temperature Offset** (+9°F to -9°F) (+4.5°C to -4.5°C)
  - Adjust to calibrate displayed room temperature to match actual room temperature.
  - Press the ∧ or ∨ to select. Press ➡ to advance to the next screen.

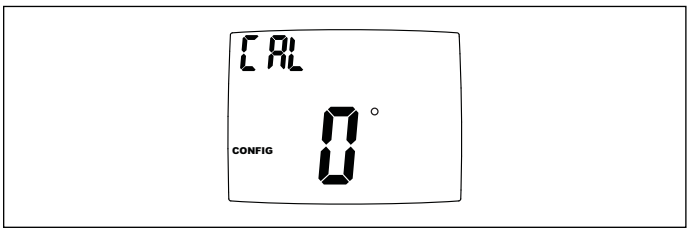


Figure 20

- **Maximum Cycles Allowed Per Hour** (- -, 2-6)
  - ⬬ ⬬ = as many as needed, 2-6 = maximum cycles/hour
  - Press the ∧ or ∨ to select. Press ➡ to advance to the next screen.

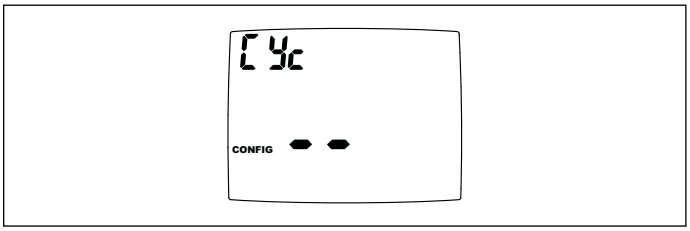


Figure 21

- **Humidification/Dehumidification** (Hu, dE)
  - Set system configuration to work with a humidifier or dehumidifier (including air conditioner).

CAUTION:
- Incorrect settings can damage system and/or cause potentially dangerous conditions.

Use the code described in Configuration Safety Lock to access this screen setting.
Hu: used with a humidifier to humidify home.
dE: used with air conditioner or dehumidifier to de humidify home.

  - Press the ∧ or ∨ to select.
  - Press ➡ to advance to the next screen.

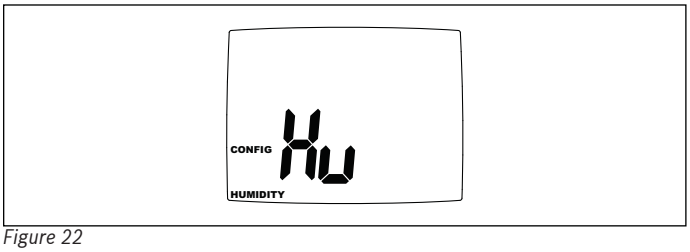


Figure 22

- **Humidity Differential** (1% to 10%)
  - Set the percent difference between the setpoint humidity and when the humidifier or dehumidifier system turns on.
  - Press the ∧ or ∨ to select.
  - Press ➡ to advance to the next screen.

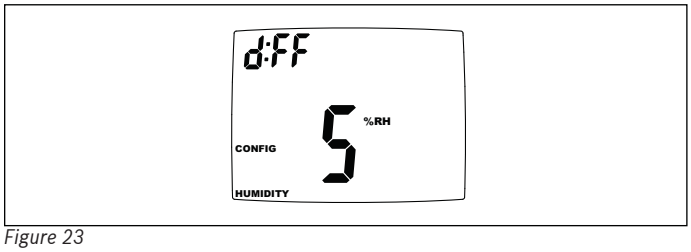


Figure 23

- **Condition to Turn On**
  - Set the condition for system to follow:

Humidification

No = No condition other than humidity reading below setpoint and differential will turn on the humidifier.

HEAT = Heat must be energized in order for the humidifier to turn on.

HEAT-FAN: Either the heat or the fan must be energized in order for the humidifier to turn on.

Dehumidification

No = No condition other than humidity reading above setpoint and differential will turn on the dehumidifier.

COOL-FAN = Either the cooling system or the fan must be energized in order for the dehumidifier to turn on.

COOL-no = Cooling system cannot be energized in order for the dehumidifier to turn on.

  - Press the ∧ or ∨ to select.
  - Press ➡ to advance to the next screen.

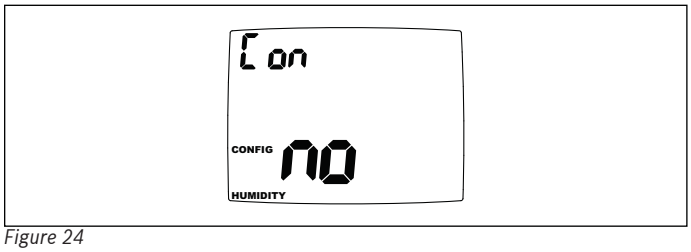


Figure 24

- **Fan Delay Off Time** (0, 30, 60, 90 seconds)
  - Select the amount of time the fan continues to operate after the cool/heat demand has been satisfied. Functions for cooling, heat pumps and electric heat.
  - Press ∧ or ∨ to select.
  - Press ➡ to advance to the next screen.

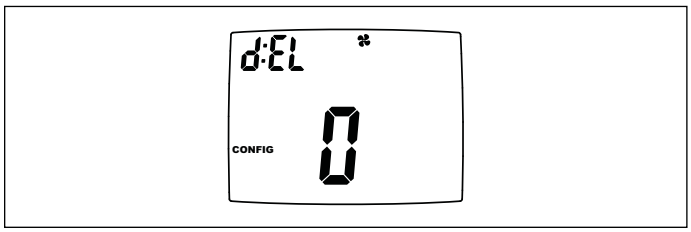


Figure 25

- **Hourly Cycle Fan Operation** (1-30 minutes per hour)
  - Used in conjunction with the Fan HOURLY mode. When the user selects this option, the fan will turn on at the beginning of every hour and run for the number of minutes indicated here.
  - Press ∧ or ∨ to select.
  - Press ➡ to advance to the next screen.

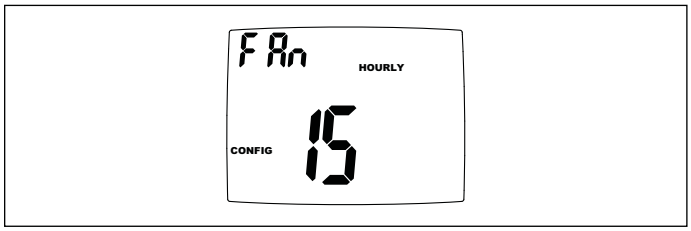


Figure 26

- **Fan on Schedule** (OFF, WAKE, LEAVE, RETURN, SLEEP)
  - The fan will run continuously during this scheduled period when the mode is not set to OFF. To turn on the fan during one of the scheduled periods (WAKE, LEAVE, RETURN, SLEEP), please do the following:
  - Press ∧ or ∨ to select.
  - Press ➡ to advance to the next screen.

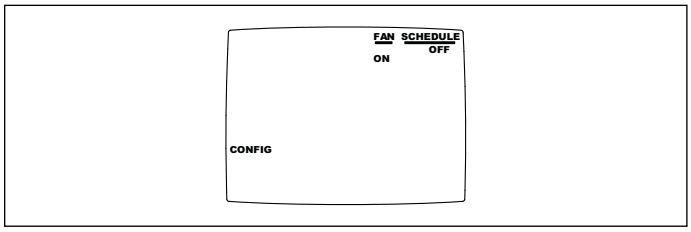


Figure 27

- **Check Filter Timer** (800-2500 hours)
  - After the number of (fan running) hours specified, (for example, 1200 hours), the words “CHECK FILTER” will display to remind you to check/change the system filter. The next configuration screen is where the elapsed number of run hours can be reset.
  - Press ∧ or ∨ to select.
  - Press ➡ to advance to the next screen.

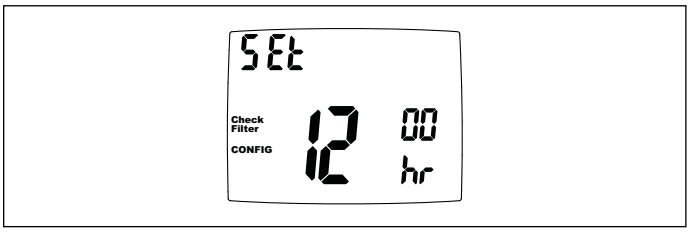


Figure 28

- **Reset Check Filter Timer**
  - Used to reset the elapsed number of (fan running) hours for the Check Filter Timer
  - Press ∧ or ∨ to select y (YES).
  - Press ➡ to advance to the next screen or press ⌂ to exit configuration setting mode.
    Auto exit occurs after two minutes of no icons being touched.

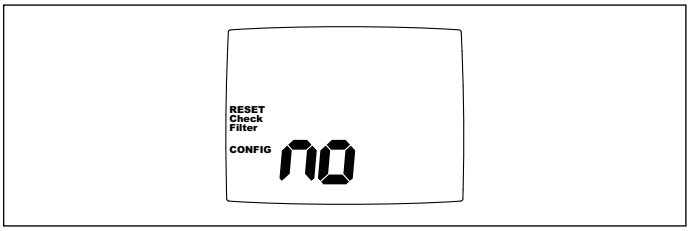


Figure 29

6 Mode of operation

This thermostat is based on the i2020HR, but adds connections to the UPM to read UPM fault codes. It saves fault code history and displays a new message on the front panel of the thermostat to alert the user to call a service technician to service the system.

The thermostat is a programmable, manual or auto changeover, up to 2-stage heat and up to 2-stage cool thermostat. It functions with air conditioning, heat pumps, gas, oil, or electric heat systems. The thermostat activates the heating appliance when the room temperature is below the set heat temperature (by the differential temperature). When the call for heat has been satisfied, the outputs are turned off. With heat pumps, the thermostat will not let the compressor come on for 4 minutes after it turns off to protect your compressor.

When the room temperature is greater than the set cool temperature (by the differential temperature), the cooling device is activated. When the call for cooling has been satisfied, the outputs are turned off. The thermostat will not let the compressor come on for 4 minutes after it turns off to protect your compressor.

The program schedule can be overridden by changing the set temperature (^ or v). This puts the thermostat into a temporary hold. It will automatically return to the program schedule depending on how the override feature is configured.

The thermostat is controlling a dehumidifier (including an air conditioner). The thermostat will turn on the dehumidifier when the relative humidity is above the setpoint humidity, by the differential. Depending on the settings, when the relative humidity reaches the differential humidity set or the room temperature is 3°F below the set cooling temperature, the dehumidifier is turned off.

6.1 Icon functions

^ **UP** – Used to increase the time, set temperatures, and to adjust configuration settings.

v **DOWN** – Used to decrease the time, set temperatures, and to adjust configuration settings.

MENU – Used to enter configuration, set the clock, lock the thermostat, or select viewing options.

- CONFIG ➡ Sets up thermostat to work for specific systems.
- CLOCK ➡ Set year, month, date, and time.
- LOCK ➡ Allows you to lock the thermostat to prevent tampering.
- VIEW ➡ Allows you to see both the remote sensor temperatures, date, current schedule period, lock screen, filter accumulated time, and show details (system status).
- HUMIDITY ➡ Allows you to view the current relative humidity and change humidity setpoint (10% to 80%).

FAN – Used to select between AUTO, ON, and HOURLY fan operation.

MODE – Used to select between OFF, HEAT, EMERGENCY HEAT (heat pump only), COOL, and AUTO changeover modes.

HOME – Wakes thermostat, returns to home screen, and enters changes into memory.

SCHEDULE – Used to edit program schedule, turn program on and off, and set vacation return dates.

CALL SERVICE TECH – Message appears when the thermostat senses a lockout condition occured on the UPM.

Check Filter **CHECK FILTER** – Message appears when the blower motor set runtime has been met. Indicates the air filter should be checked, cleaned, or changed.

6.2 Operating modes

The possible operating modes for the thermostat are: OFF, HEAT, EM HEAT, COOL, and AUTO. Use ✱ to select.

- **OFF Mode**
  - In this mode, the thermostat will not turn on the heating or cooling devices

The indoor fan can be turned on manually in every operating mode by pressing ✱ until FAN ON displays. The fan icon ✱ appears on the display when the fan operates.

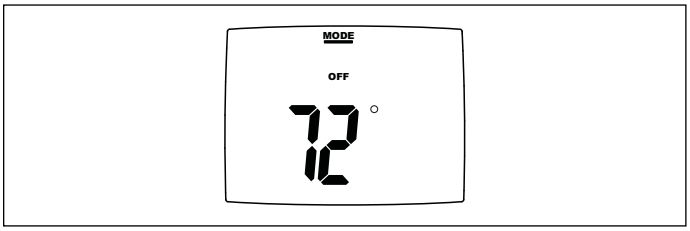


Figure 30

- **Heat Mode**
  - In this mode, the thermostat controls the heating system. When the heat outputs, the flame icon appears on the display for each stage of heat that is on.

For heat pumps, there is a four minute delay for your compressor to restart after it has turned off. To bypass the compressor time delay, go to OFF mode and press ⌂.

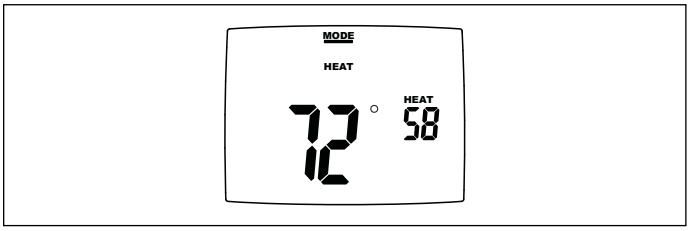


Figure 31

- **EM Heat Mode**
  - In this mode, the compressor is bypassed and emergency heat is used.

This mode is only used with heat pumps.

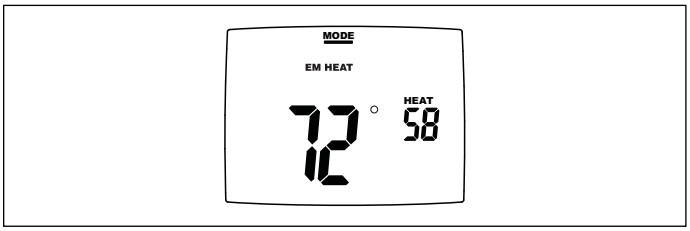


Figure 32

- **Cool Mode**
  - In this mode, the thermostat controls the cooling system. When the cooling outputs, the snowflake ❄ icon appears on the display for each stage of cool that is on.

There is a four minute delay for your compressor to restart after it has turned off. To bypass the compressor time delay, go to OFF mode and press ⌂.

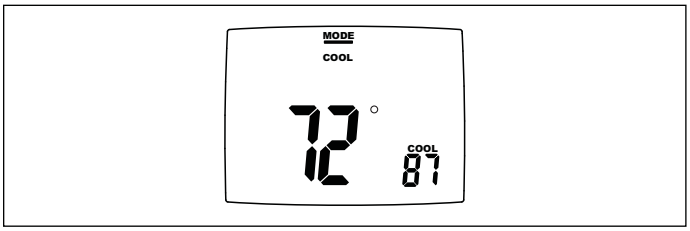


Figure 33

- **Auto Mode**
  - In this mode, the thermostat controls both heating and cooling systems simultaneously.

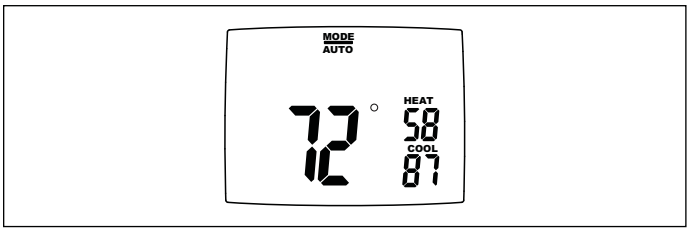


Figure 34

6.3 Testing the thermostat

Once the thermostat is configured, 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.

Heat Test

1. Press ⌂, then press ✹ until heat mode is displayed.
2. Adjust the set temperature so it is 5 degrees above the room temperature.
3. Heating should come on within a few seconds.
4. Adjust the set temperature 2 degrees below the room temperature and the heat should turn off. There may be a fan delay on your system.

For heat pumps, there is a four-minute delay to protect your compressor after it turns off. To bypass the compressor time delay, go to OFF mode and press ⌂ .

Cool Test

1. Press ⌂, then press ✹ until cool mode is displayed.
2. Adjust set temperature so it is 5 degrees below room temperature.
3. Cooling should come on within a few seconds.
4. Adjust the set temperature 2 degrees above the room temperature and the cooling should turn off. There may be a fan delay on your system.

There is a four-minute time delay to protect the compressor after it turns off. To bypass the compressor time delay, go to OFF mode and press ⌂ ..

Fan Test

1. Press ⌂, then press ✣ icon. FAN ON displays. Indoor fan turns ON.
2. Press ⌂, then press ✣ icon. FAN AUTO displays. Indoor fan turns OFF.

6.4 Testing the thermostat humidity control

Humidification Test – when set to humidification, only

To test the humidifier, set the mode and fan to the correct setting:

- **HEAT-FAN:** Either the heating system or fan must be operating in order for the humidifier to turn on.
- **HEAT:** Heat must be operating in order for the humidifier to turn on.
- **no:** No condition other than humidity reading below setpoint and differential will turn on humidifier.

1. Go to MENU/HUMIDITY and press ➡.
2. Change the humidity setpoint above the relative humidity by the differential (see Configuration Menu section).
3. Press ⌂ twice. You should hear a click and when you go back into the humidity settings you will see ON in the top left corner of the screen.
4. Change the humidity setting below the relative humidity by the differential. The humidifier will turn off.

Dehumidification Test – when set to dehumidification, only

To test dehumidification, set the mode and fan to the correct settings.

- **COOL-FAN:** Either the cooling system or fan must be operating in order for the dehumidifier to turn on.
- **COOL-no:** The cooling system must be turned off in order for the dehumidifier to turn on.
- **no:** No condition other than humidity reading above setpoint and differential will turn on dehumidifier.

1. Go to MENU/HUMIDITY and press ➡.
2. Change the humidity setpoint below the relative humidity by the differential (Configuration Menu, Section 19, Page 16).
3. Press ⌂ twice. If the relay configuration is set to normally open, there will be a click and the humidity screen will display ON. If the relay configuration is set to normally closed, the humidity screen will not display ON.
4. Change the humidity setting to greater than the relative humidity by the differential by pressing the ^.
5. Press ⌂ twice. If the relay configuration is set to normally closed, there will be a click and ON is displayed on the humidity screen. If the relay configuration is set to normally open, the humidity screen will not display ON.

6.5 Setting the time and date

1. Press ⌂, then press ☰ until CLOCK is displayed.
2. Press ➡ to enter date/time setting. Year blinks.
3. Press ∧ or ∨ to select the year.
4. Press ➡ to save value and move to month.
5. Press ∧ or ∨ to select the month.
6. Press ➡ to save value and move to day.
7. Press ∧ or ∨ to select the day.
8. Press ➡ to save value and move to hour.
9. Press ∧ or ∨ to select the hour.

> **i** As you move past 12:00, the AM/PM symbol will change automatically.

10. Press ➡ to save the value and move to minutes.
11. Press ∧ or ∨ to select the minutes.
12. Press ⌂ to exit Time/Date setting.

6.6 Setting the program schedule

The thermostat has four periods (WAKE, LEAVE, RETURN, SLEEP) that are customizable for each day of the week. Each period will have a start time, heat temperature, and cool temperature. The thermostat monitors the day and time, while maintaining the specific conditions you have chosen for each period in your program.

Setting the program schedule:

1. Press ⌂, then press 15 until EDIT is displayed.
2. Press ➡ to enter Program Schedule.
3. The day of the week flashes. Use the ∧ or ∨ to select the day of the week.

> **i** You can select the days individually, or if you keep going, there is an option for MON-FRI, MON-SUN or SAT-SUN.

4. Press ➡ to continue.
5. The period (WAKE, LEAVE, RETURN, SLEEP) begins flashing. Use the ∧ or ∨ to select the desired period.
6. Press ➡ to continue.
7. Hour flashes. Use the ∧ or ∨ to select the hour when you want the current period to begin.
8. Press ➡ to continue.
9. The minutes flash. Use the ∧ or ∨ to select the minutes when you want the current period to begin.
10. Press ➡ to continue.
11. The HEAT temperature flashes. Use the ∧ or ∨ to set the desired heat temperature.
12. Press ➡ to continue.
13. The COOL temperature flashes. Use the ∧ or ∨ to set the desired cool temperature.
14. Press ➡ to continue.
15. Continue to set your entire schedule.
16. Press ⌂ to exit.

6.7 View screen options

1. Press , then press repeatedly until the MENU VIEW option displays then press .
2. Press to advance to the next screen.
3. Press to go to previous screen.

These screens are visible when the thermostat is locked or unlocked.

View fault Screen

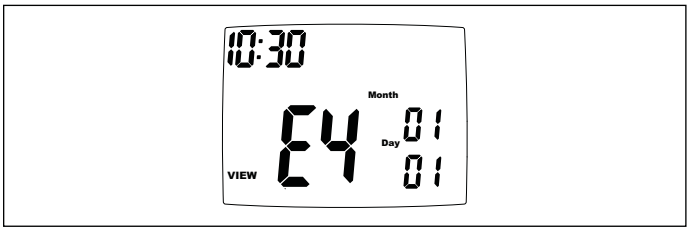


Figure 35

View month, day, and year

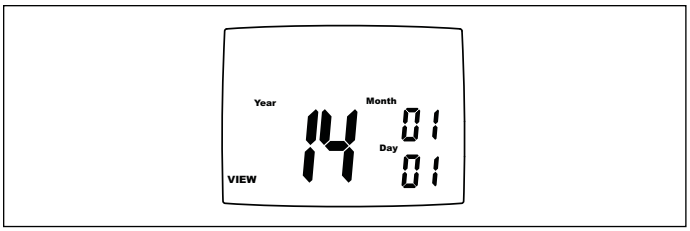


Figure 36

View program schedule settings

- **OFF** shows when schedule is off.
- **SETTINGS** show when schedule is on.

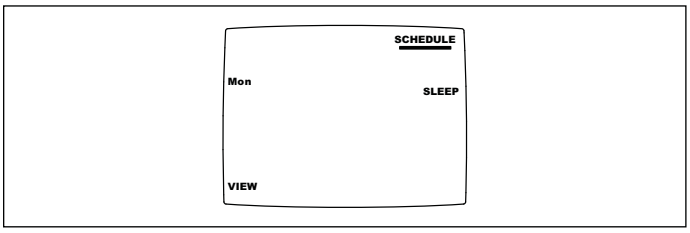


Figure 37

View if locked or unlocked

- no = Unlocked
- y = Locked

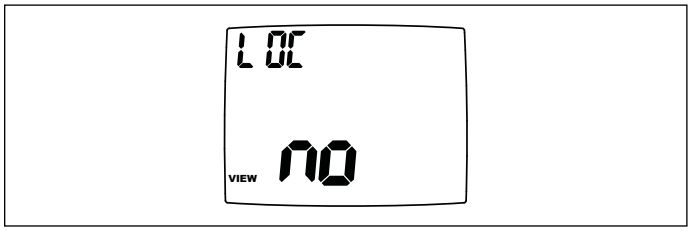


Figure 38

View filter status

- Accumulated fan run time displays.

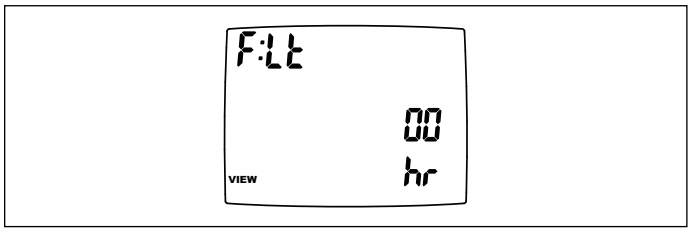


Figure 39

Display setpoints, fan, and program information

- Press or to select.

  no = Don't display setpoints and program schedule information.

  dEt = Always display setpoints and program schedule information.
- Press to exit.

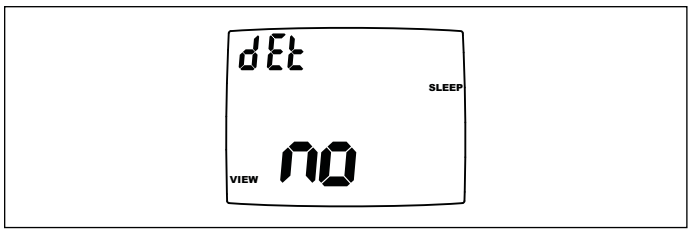


Figure 40

6.8 Viewing fault codes

When one of the faults listed below causes a hard lockout on the UPM the unit compressors are disabled and the “Call Service Tech” light is illuminated.

To view UPM’s fault code, go to **MENU VIEW**. Press ➡ multiple times to the last menu item.

If no fault history is recorded, screen will show “VIEW Er no”.

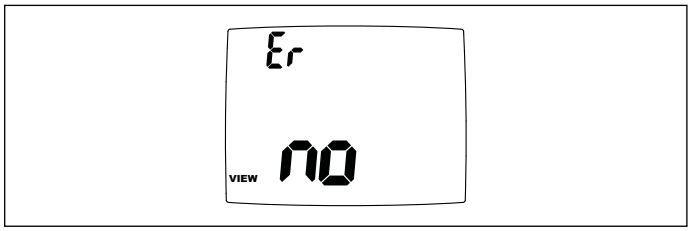


Figure 41

If fault history is recorded, screen will show “VIEW E{x} {month} {date} {time}” indicating the fault code, date and time of the fault.

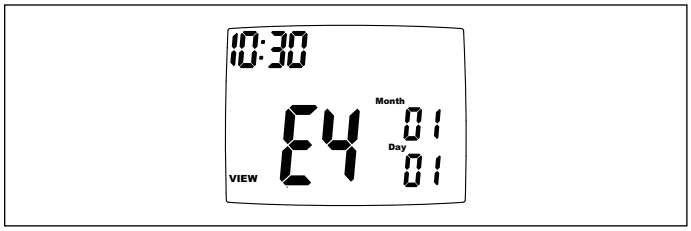


Figure 42

You can press ∧ or ∨ button to browse fault history. The thermostat records the latest 20 faults.

For additional information on fault codes, please refer to the unit instruction and maintenance manual.

6.9 Schedule override

The schedule override feature allows the user to override the program schedule for 1 to 5 hours. In addition, if selected, the schedule can be overridden only until the next transition period.

To access the Schedule override feature, enter the CONFIG screen by pressing the menu button. Then, use ➡ to scroll through the menu options until you reach the SCHEDULE OVERRIDE screen. In the default setting, the Vacation & Schedule periods will be flashing in the upper right corner of the LCD. In this mode, the Vacation & Schedule will be overridden until the next transition period. To switch to the 1-5 hour override, use the ^ arrow. This mode allows the user to override the Schedule set points for 1-5 hours.

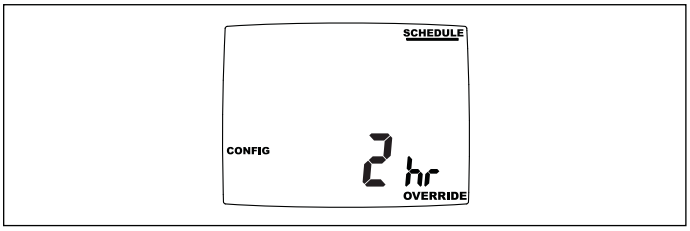


Figure 43

6.10 Setting the vacation timer

The vacation timer lets you set the date and time of your RETURN from vacation. Until that date/time, the system will remain at the VACATION heating and cooling setpoints specified in the configuration menu.

To use the EASY VACATION feature:

Press ⌂, then press the 15 to scroll to “Vacation” then press ⌂ again. The thermostat will automatically go into Vacation mode with the default return date 1 month later .

To set the vacation timer (and begin vacation setpoint mode):

1. Press ✱ to select operating mode.
2. Press ⌂, then press 15 until VACATION appears.
3. Press ➡ to enter the date and time you plan to RETURN from vacation.
4. When your finished entering the date/time, press ⌂.

7 Factory preprogramming

The thermostat comes pre-programmed with the following schedule:

MONDAY thru SUNDAY

WAKE	6:00 AM
HEAT	70°F
COOL	78°F

LEAVE	8:00 AM
HEAT	62°F
COOL	85°F

RETURN	6:00 PM
HEAT	70°F
COOL	78°F

SLEEP	10:00 PM
HEAT	62°F
COOL	82°F

Use the following personal program schedule to record your settings:

MONDAY - 1

WAKE	
HEAT	
COOL	

LEAVE	
HEAT	
COOL	

RETURN	
HEAT	
COOL	

SLEEP	
HEAT	
COOL	

TUESDAY - 2

WAKE	
HEAT	
COOL	

LEAVE	
HEAT	
COOL	

RETURN	
HEAT	
COOL	

SLEEP	
HEAT	
COOL	

WEDNESDAY - 3

WAKE	
HEAT	
COOL	

LEAVE	
HEAT	
COOL	

RETURN	
HEAT	
COOL	

SLEEP	
HEAT	
COOL	

THURSDAY - 4

WAKE	
HEAT	
COOL	

LEAVE	
HEAT	
COOL	

RETURN	
HEAT	
COOL	

SLEEP	
HEAT	
COOL	

FRIDAY - 5

WAKE	
HEAT	
COOL	

LEAVE	
HEAT	
COOL	

RETURN	
HEAT	
COOL	

SLEEP	
HEAT	
COOL	

SATURDAY - 6

WAKE	
HEAT	
COOL	

LEAVE	
HEAT	
COOL	

RETURN	
HEAT	
COOL	

SLEEP	
HEAT	
COOL	

SUNDAY - 7

WAKE	
HEAT	
COOL	

LEAVE	
HEAT	
COOL	

RETURN	
HEAT	
COOL	

SLEEP	
HEAT	
COOL	

8 Troubleshooting

Symptom	Solution
No display	Check for 24 VAC at thermostat; display is blank when 24 VAC is not present. Time and day of week must be reset after power loss with no batteries installed.
System fan does not come on properly	Verify wiring is correct, check heat source (Gas/Electric) in Configuration (see Section 5).
No response with first button press	Press to activate touch icons.
Program schedule activates at wrong time	Check time (AM/PM) set on thermostat (see Setting the Time and Date).
Thermostat turns on/off too frequently	Adjust temperature differential (see Configuration Mode Setting, Section 5.8).
Thermostat does not follow program	Verify the schedule is on SCHEDULE ON: check time (AM/PM); check if in program override.
Fan runs continuously	Press and set to auto FAN AUTO. FAN ON is continuous run.
Room temperature is not correct	Calibrate thermostat (see Configuration Mode Setting).
LOCK displays when any button is pressed	Thermostat has the button lockout function activated (see Lockout & Unlock Feature) and (see Configuration Mode Setting, Section 5.8).
Heat or Cool not coming on	Verify wiring is correct, gently pull on each wire to verify there is a good connection at terminal block.
Er displays	Check for low battery condition or faulty outdoor/remote temperature sensor.
Setpoints do not display all of the time	Press , MENU VIEW, six times, dEt 4
OVERRIDE displays	Program schedule is in temporary override, it will return to schedule at the next transition time.
Condensation forming on windows	Decrease humidification setting
Thermostat says that the humidifi er is operating but humidity has not risen	Check humidifier pad and replace if necessary
Dehumidifier is always running	Check the relay configuration
The room temperature is met, but the air conditioner is still operating	Dehumidification is set to COOL -2. The thermostat will continue to let the cooling system operate until the cooling temperature is 3°F below the setpoint or when the dehumidification setpoint is met.

Table 5

NOTES:

United States and Canada

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