

USER MANUAL

**PREMIER
SERIES**

Programmable Thermostats

5020 Single Stage Conventional Systems
or Single Stage Heat Pumps with Auxiliary Heat

5220 Up to 3 Heat / 2 Cool Heat Pump
Up to 2 Heat / 2 Cool Conventional

***Read all instructions before proceeding.
Visit www.braeburnonline.com for detailed User Guide.***

Store this manual for future reference

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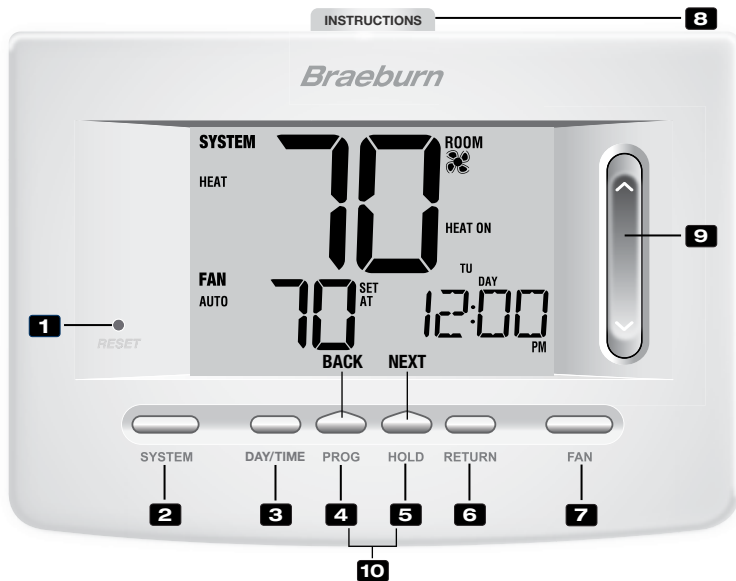
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Congratulations! You are in control of one of the easiest-to-use thermostats on the market today. This thermostat has been designed to provide you with years of reliable performance and comfort control.

Features

- SpeedBar® multi-function button simplifies programming and setting changes.
- SpeedSet® programming gives you the option of programming all 7 days at once.
- Convenient HOLD feature lets you override the program schedule.
- Large 5 sq. in. bright blue backlit display is easy to read.
- Extra large display characters make viewing settings even easier.
- User selectable service monitors remind you of required system maintenance.
- Precise temperature accuracy keeps you in control of your comfort.
- Convenient programmable and circulating fan modes
- Optional indoor or outdoor remote sensing

1 About Your Thermostat



Thermostat

- 1** **Reset Button** Resets current time, program and user settings
- 2** **SYSTEM Button** Selects the system you want to control
- 3** **DAY/TIME Button**..... Sets the current time and day of the week
- 4** **PROG Button**..... Selects programming mode or press for 3 seconds to select SpeedSet®
BACK Button* Secondary function of the PROG button - moves back a setting
- 5** **HOLD Button**..... Enters/Exits the HOLD mode (program bypass)
NEXT Button* Secondary function of the HOLD button - moves to next setting
- 6** **RETURN Button** Returns to normal mode from program or setting modes
- 7** **FAN Button** Selects the system fan mode
- 8** **Quick Reference Instructions**..... Stored in slot located at top of thermostat
- 9** **SpeedBar®** Increases or decreases settings (time, temperature, etc.)
- 10** **Outdoor Temperature**..... If a Braeburn® outdoor sensor was connected you can view the outdoor temperature by pressing the **PROG** and **HOLD** buttons at the same time.
- Battery Compartment**..... Located in the back of thermostat

* **BACK** and **NEXT** are secondary functions of the **PROG** and **HOLD** buttons. When in programming or configuration modes, **BACK** and **NEXT** appear in the display, indicating that the **PROG** and **HOLD** buttons now function as **BACK** and **NEXT**.

2 Setting User Options

Advanced User Options

User options allow you to customize some of your thermostat's features. Most users will not need to make any changes to the settings in this section.

To access the User Options menu, press and hold the **RETURN** button for approximately 3 seconds until the screen changes and displays the first User Option.

Press the SpeedBar® **▲** or **▼** to change the setting for the displayed User Option. After you have changed your desired setting, press **NEXT** (HOLD) to advance to the next User Option. You may also press **BACK** (PROG) to move backwards through the User Options.

When your changes are complete, press **RETURN** to exit.

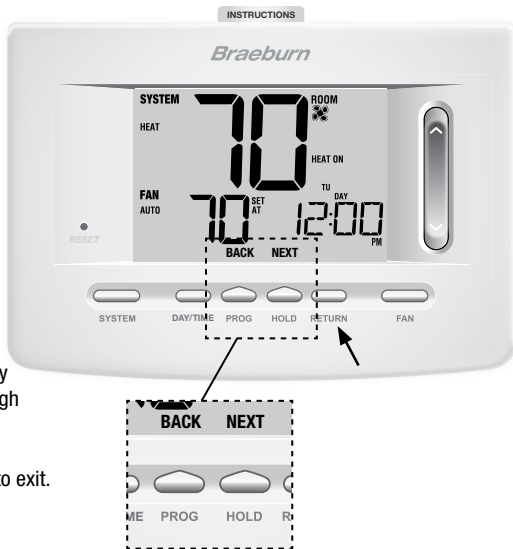


Table of User Options

NOTE: Some user options may not be available, depending on how your thermostat was configured in the Installer Settings (see Installer Manual). A detailed description of each User Option follows this table.

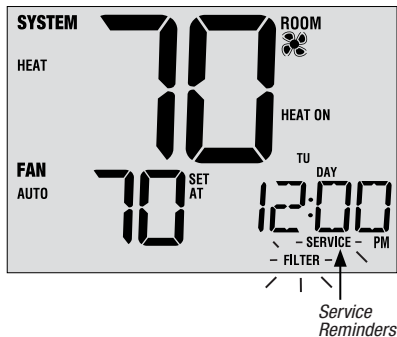
No.	User Options	Factory Default	Setting Options	Comments	Pg.
1	Filter Service Monitor	OFF	OFF	Disables filter service monitor feature.	8
			30, 60, 90, 120, 180, 365	Selects a number of days that must pass before the thermostat will flash a Service Filter reminder in the display screen.	
2	UV Light Service Monitor	OFF	OFF	Disables UV service monitor feature.	8
			180, 365	Selects a number of days before the thermostat will flash a Service UV reminder in the display screen.	
3	Humidifier Pad Service Monitor	OFF	OFF	Disables pad service monitor feature.	8
			180, 365	Selects a number of days before the thermostat will flash a Service Humid reminder in the display screen.	
4	Extended Hold Period	LONG	LONG	Selects long (permanent) hold mode.	8
			24HR	Selects 24 hour (temporary) hold mode.	
5	Temporary Override Adjustment Limit	0 ADJ	0, 1, 2, or 3 ADJ 0	Selects a temporary temperature adjustment limit of 0 (disabled), 1°, 2° or 3°.	9
6	Program Override Time Limit	4 TEMP	1, 2, 3 or 4 TEMP	Selects a temporary program override time limit of 1, 2, 3 or 4 hours.	9
7	Thermostat Lock Code	000	0-9	Select a 3 digit lock code of 0-9 for each digit.	9

Service Monitors

(Filter, UV and Humidifier Pad)

User Options 1, 2 and 3

There are three user selectable service monitors that will display reminders for a required air filter, UV bulb or humidifier pad replacement. The SERVICE segment flashes in the display along with FILTER, UV or HUMID. When the service interval has been reached, and required cleaning or replacement has been performed, press the **RETURN** button to reset the timer. Select OFF or a set number of days before the reminder will appear.



Extended Hold Period

User Option 4

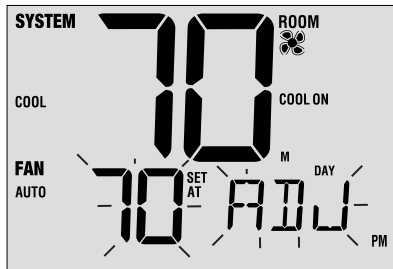
The Extended Hold Period lets you select the period your thermostat will hold the temperature when the HOLD mode is activated (*See Setting the Temperature, page 21*). When LONG is selected the thermostat will hold your temperature indefinitely. When 24HR is selected, the thermostat will hold your temperature for 24 hours and then return to the current program at that time. Not available in non-programmable mode.

Temporary Override Adjustment Limit

User Option 5

The Temporary Override Adjustment Limit will limit how much the temperature can be adjusted from the current set point when the thermostat is used in the programmable mode. This setting will not allow the user to override the temperature past the selected limit amount of 1, 2 or 3 degrees from the current set point. When the user reaches the adjustment limit the screen will flash ADJ. A setting of 0 disables the adjustment limit.

The Temporary Override Adjustment Limit can also be used in the non-programmable mode if the keypad lockout security level is set to level 1 (*See Installer Manual*).



Program Override Time Limit

User Option 6

The Program Override Time Limit allows you to set a maximum time limit (in hours) that the thermostat will return to the program after a temporary temperature adjustment has been made (*See Setting the Temperature, page 21*). You may select 1, 2, 3 or 4 hours. Not available in non-programmable mode.

Thermostat Lock Code

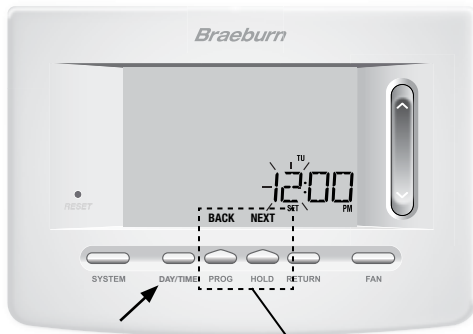
User Option 7

The Thermostat Lock Code sets a 3-digit code that you may use at any time to lock or unlock the thermostat. Setting the code in the user options mode does not activate the lock feature (*See Locking/Unlocking Thermostat, page 24*). You may choose a 3-digit code with each digit being 0-9.

3 Setting Your Program Schedule

Setting the Time and Day

1. In normal operating mode, press the **DAY/TIME** button. The display will switch to the day/time setting mode and the hour will be flashing.
2. Press the SpeedBar® up or down to adjust the hour, press **NEXT**.
3. Press the SpeedBar up or down to adjust the minute, press **NEXT**.
4. Press the SpeedBar up or down to adjust the day of the week.
5. Press **RETURN** to exit.



BACK and NEXT are secondary functions of the PROG and HOLD buttons.

Tips Before Setting Your Program Schedule

- Make sure your current time and day of the week are set correctly.
- When programming, make sure the AM and PM indicators are correct.
- Various installer settings such as auto changeover mode and temperature adjustment limits may affect your programming flexibility.
- Your NIGHT event cannot exceed 11:50 p.m.
- **BACK** and **NEXT** are secondary functions of the **PROG** and **HOLD** buttons (see pages 4 and 6).

This thermostat has been configured with one of the following programming options:

- Residential 7 day programming mode with 4 events per day (default)
- Residential 5-2 (weekday/weekend) programming mode with 4 events per day
- Commercial 7 day programming mode with 2 events per day
- Non-Programmable mode

NOTE: If this thermostat was configured In the Installer Settings to be non-programmable, then you cannot set a user program. If you press the **PROG** or **HOLD** buttons, the word “NONE” will appear in the display, indicating there is no program present. See the installer manual for different configuration options.



Energy Saving Programs

This thermostat comes pre-programmed with a default energy saving program. The following tables outline the pre-programmed times and temperatures for heating and cooling in each of your 4 daily events (2 events if configured for commercial mode). If you wish to use these settings then no further programming is necessary:

Residential 7 Day Programming <i>Factory Settings</i>	
4 Event	All Days
MORN	Time: 6:00 am Heat: 70° F (21° C) Cool: 78° F (26° C)
DAY	Time: 8:00 am Heat: 62° F (17° C) Cool: 85° F (29° C)
EVE	Time: 6:00 pm Heat: 70° F (21° C) Cool: 78° F (26° C)
NIGHT	Time: 10:00 pm Heat: 62° F (17° C) Cool: 82° F (28° C)

Commercial 2 Event Programming <i>Factory Settings</i>	
2 Event	All Days
OCCUPIED	Time: 8:00 am Heat: 70° F (21° C) Cool: 78° F (26° C)
UNOCCUPIED	Time: 6:00 pm Heat: 62° F (17° C) Cool: 85° F (29° C)

Residential 5-2 Day Programming– Weekday/Weekend
Factory Settings

4 Event	Weekday	Weekend
MORN	Time: 6:00 am Heat: 70° F (21° C) Cool: 78° F (26° C)	Time: 6:00 am Heat: 70° F (21° C) Cool: 78° F (26° C)
DAY	Time: 8:00 am Heat: 62° F (17° C) Cool: 85° F (29° C)	Time: 8:00 am Heat: 62° F (17° C) Cool: 85° F (29° C)
EVE	Time: 6:00 pm Heat: 70° F (21° C) Cool: 78° F (26° C)	Time: 6:00 pm Heat: 70° F (21° C) Cool: 78° F (26° C)
NIGHT	Time: 10:00 pm Heat: 62° F (17° C) Cool: 82° F (28° C)	Time: 10:00 pm Heat: 62° F (17° C) Cool: 82° F (28° C)

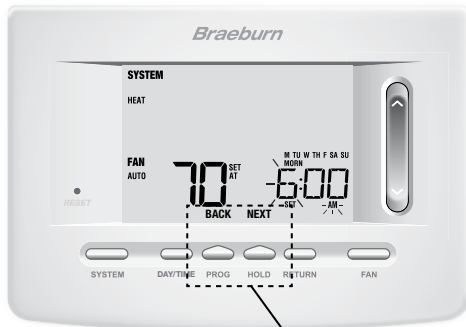
Programming a 7 Day Residential Schedule

The 7 day residential programming mode gives you the option to program individual days (1 day at a time) or to use SpeedSet and program the entire week (all 7 days) with a 4 event program schedule.

Setting All 7 Days at Once (SpeedSet®)

NOTE: Setting all 7 days at once will copy over any previously programmed individual days.

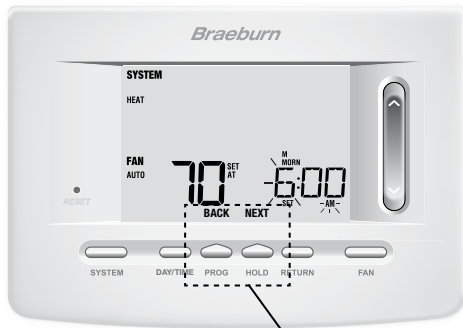
1. Hold the **PROG** button for 3 seconds. The display will switch to SpeedSet programming mode. All 7 days of the week will appear and the hour will be flashing.
2. Press **SYSTEM** to select HEAT or COOL.
3. Press the SpeedBar® up or down to adjust the hour for the MORN (morning) event. Press **NEXT**.
4. Press the SpeedBar up or down to adjust the minute for the MORN event. Press **NEXT**.
5. Press the SpeedBar up or down to adjust the temperature for the MORN event. Press **NEXT**.
6. Press the SpeedBar up or down to adjust the fan setting for the MORN event. Press **NEXT**.
7. Repeat steps 3-6 for the DAY, EVE and NIGHT events.
8. If needed, repeat steps 2-7 to program the opposite mode (HEAT or COOL).
9. Press **RETURN** to exit.



BACK and NEXT are secondary functions of the **PROG** and **HOLD** buttons.

Setting Individual Days (7 Day Residential)

1. Press the **PROG** button. The display will switch to programming mode. M (Monday) will be displayed and the hour will be flashing.
2. Press **SYSTEM** to select HEAT or COOL.
3. Press **DAY/TIME** to select the day you would like to program.
4. Press the SpeedBar® up or down to adjust the hour for the MORN (morning) event. Press **NEXT**.
5. Press the SpeedBar up or down to adjust the minute for the MORN event. Press **NEXT**.
6. Press the SpeedBar up or down to adjust the temperature for the MORN event. Press **NEXT**.
7. Press the SpeedBar up or down to adjust the fan setting for the MORN event. Press **NEXT**.
8. Repeat steps 4-7 for your DAY, EVE and NIGHT events.
9. If needed, repeat steps 3-7 to select a different day to program.
10. If needed, repeat steps 2-9 to program the opposite mode (HEAT or COOL).
11. Press **RETURN** to exit.

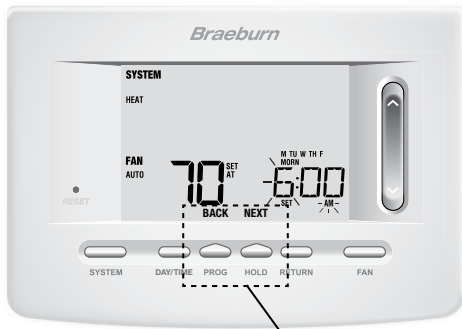


BACK and **NEXT** are secondary functions of the **PROG** and **HOLD** buttons.

Programming a 5-2 Day Residential Schedule

The 5-2 day residential programming mode allows you to program Monday - Friday with one 4 event schedule and then allows you to change Saturday and Sunday with a different 4 event schedule.

1. Press the **PROG** button. The display will switch to programming mode. The days M, TU, W, TH, and F will be displayed and the hour will be flashing.
2. Press **SYSTEM** to select HEAT or COOL.
3. Press the SpeedBar® up or down to adjust the hour for the MORN (morning) event. Press **NEXT**.
4. Press the SpeedBar up or down to adjust the minute for the MORN event. Press **NEXT**.
5. Press the SpeedBar up or down to adjust the temperature for the MORN event. Press **NEXT**.
6. Press the SpeedBar up or down to adjust the fan setting for the MORN event. Press **NEXT**.
7. Repeat steps 3-6 for your DAY, EVE and NIGHT events.
8. Repeat steps 3-7 for your weekend (S, SU) program.
9. If needed, repeat steps 2-9 to program the opposite mode (HEAT or COOL).
10. Press **RETURN** to exit.



BACK and **NEXT** are secondary functions of the **PROG** and **HOLD** buttons.

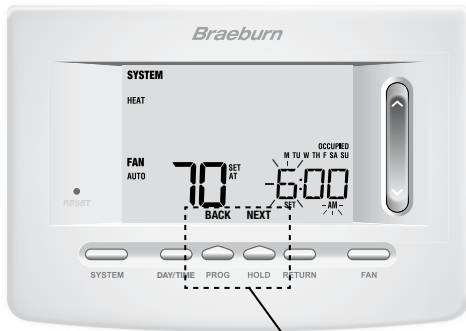
Programming a 7 Day Commercial Schedule

The 7 day commercial programming mode gives you the option to program individual days (1 day at a time) or to use SpeedSet and program the entire week (all 7 days) with a 2 event program schedule.

Setting All 7 Days at Once (SpeedSet®)

NOTE: Setting all 7 days at once will copy over any previously programmed individual days.

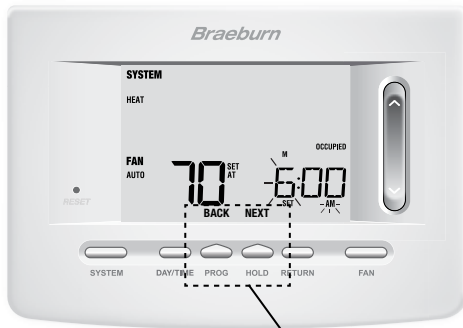
1. Hold the **PROG** button for 3 seconds. The display will switch to SpeedSet programming mode. All 7 days of the week will appear and the hour will be flashing.
2. Press **SYSTEM** to select HEAT or COOL.
3. Press the SpeedBar® up or down to adjust the hour for the OCCUPIED event. Press **NEXT**.
4. Press the SpeedBar up or down to adjust the minute for the OCCUPIED event. Press **NEXT**.
5. Press the SpeedBar up or down to adjust the temperature for the OCCUPIED event. Press **NEXT**.
6. Press the SpeedBar up or down to adjust the fan setting for the OCCUPIED event. Press **NEXT**.
7. Repeat steps 3-6 for your UNOCCUPIED event.
8. If needed, repeat steps 2-7 to program the opposite mode (HEAT or COOL).
9. Press **RETURN** to exit.



BACK and **NEXT** are secondary functions of the **PROG** and **HOLD** buttons.

Setting Individual Days (7 Day Commercial)

1. Press the **PROG** button. The display will switch to programming mode. M (Monday) will appear and the hour will flash.
2. Press **SYSTEM** to select HEAT or COOL.
3. Press **DAY/TIME** to select an individual day.
4. Press the SpeedBar® up or down to adjust the hour for the OCCUPIED event. Press **NEXT**.
5. Press the SpeedBar up or down to adjust the minute for the OCCUPIED event. Press **NEXT**.
6. Press the SpeedBar up or down to adjust the temperature for the OCCUPIED event. Press **NEXT**.
7. Press the SpeedBar up or down to adjust the fan setting for the OCCUPIED event. Press **NEXT**.
8. Repeat steps 4-7 for your UNOCCUPIED event.
9. If needed, repeat steps 3-7 to select other individual days.
10. If needed, repeat steps 2-9 to program the opposite mode (HEAT or COOL).
11. Press **RETURN** to exit.



BACK and **NEXT** are secondary functions of the **PROG** and **HOLD** buttons.

4 Operating Your Thermostat

Setting the **SYSTEM** Control Mode

The System Control has 5 modes of operation – AUTO, COOL, OFF, HEAT and EMER. The mode can be selected by pressing the **SYSTEM** button to scroll through the different modes.

NOTE: Depending on how your thermostat was configured, some system modes may not be available.

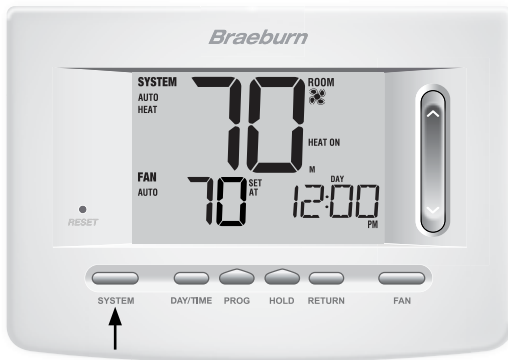
AUTO The system will cycle between heating and cooling automatically based on your program set points. AUTO will be displayed with either HEAT or COOL.

COOL Only your cooling system will operate.

OFF Heating and cooling systems are off.

HEAT Only your heating system will operate

EMER Operates a backup heat source (Emergency Heat) for heat pump systems only.



Setting the FAN Control Mode

The Fan Control has 4 modes of operation – AUTO, ON, CIRC and PROG. The mode can be selected by pressing the **FAN** button to scroll through the different modes.

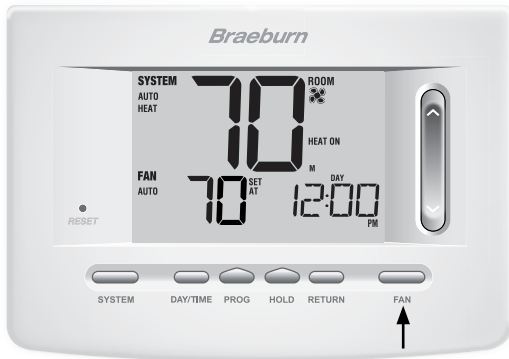
NOTE: Depending on how your thermostat was configured, some fan modes may not be available.

AUTO The system fan will run only when your heating or cooling system is running.

ON The system fan stays on.

CIRC The system fan will run from time to time to help circulate air and provide more even temperatures when the heating or cooling system is not active.

PROG The system fan will function in the AUTO or ON modes depending on your program schedule.



Setting the Temperature

Temporary Adjustment – Press the SpeedBar® up or down to adjust the current set temperature. If your thermostat is running in 5-2 or 7 day programmable mode, the set temperature will change back to your original programmed settings when your next scheduled change in temperature occurs.

Extended Adjustment – Press the **HOLD** button so that HOLD appears in the display screen. Press the SpeedBar up or down to adjust the current set temperature (See *Extended Hold Period*, page 8).

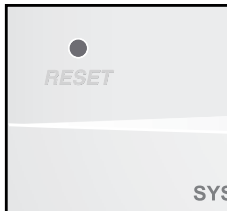
NOTE: If this thermostat was configured to be non-programmable, you will not have a HOLD option.



Resetting the Thermostat

This thermostat provides you with a reset button that will erase all of your user settings and programming. The reset feature does not affect the Installer Settings. To reset the thermostat, use a small object such as a tooth pick or paperclip and gently press the button located inside the small hole on the front of the thermostat housing labeled “RESET”.

NOTE: *You cannot reset the thermostat if it is locked.*

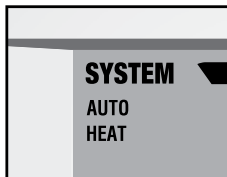


5 Additional Operation Features

Auto Changeover Mode

Auto Changeover mode is a feature enabled/disabled in the Installer Settings (see Installer Manual). If enabled, it is selected by pressing the SYSTEM button until AUTO HEAT or AUTO COOL appears in the display.

When Auto Changeover mode is enabled and selected, the system automatically switches between heating and cooling when the room temperature meets the programmed heating or cooling set points. To operate properly, the thermostat requires a “dead band” setting to eliminate program conflicts. The dead band is set in the Installer Settings (*See Installer Manual*). The default setting is 3°F. Therefore, you will not be able to set your heat or cool temperature within 3° F of each other. If a setting is made in either heating or cooling which violates the dead band, the opposite mode will adjust up or down automatically to maintain the programmed dead band spacing.



Adaptive Recovery Mode (ARM™)

Adaptive Recovery Mode is a feature enabled/disabled in the Installer Settings (See Installer Manual). If enabled, the feature is automatically present while in programmable mode.

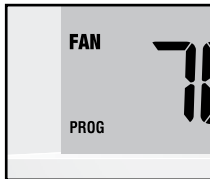
Adaptive Recovery Mode tries to reach your desired heating or cooling temperature at the time you have set in your current program schedule, after a setback period. For example, if you set your heat down to 62° at night and have a set point of 70° scheduled for 7:00 AM, the thermostat may turn on your heating system early in order achieve a temperature of 70° by 7:00 AM.

This feature does not operate when the thermostat is in HOLD mode, if the program is temporarily overridden or if emergency heat is selected on a multistage heat pump system.

Programmable Fan Mode

Programmable Fan Mode is selected by pressing FAN until PROG appears in the display. It is only available in programmable mode.

Programmable Fan Mode allows the user to run the fan continuously during a selected program event. To use this feature, select fan ON while setting program events. (See “Setting Your Program Schedule”, page 10).



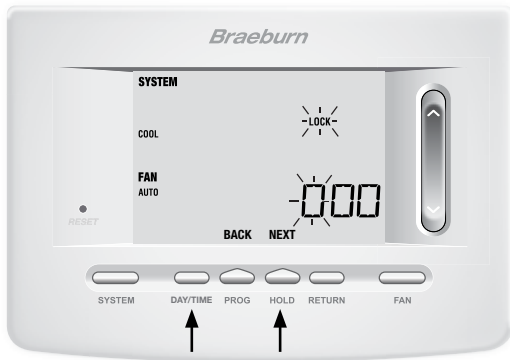
Compressor Protection

Compressor protection is enabled/disabled in the Installer Settings (See Installer Manual). If enabled, this feature is automatically present in cooling and/or heating modes. This thermostat includes an automatic compressor protection delay to avoid potential damage to your system from short cycling. This feature activates a short delay after turning off the system compressor. Additionally, for multi-stage heat pump systems, this thermostat provides cold weather compressor protection by locking out the compressor stage(s) of heating for a period of time after a power outage greater than 60 minutes. This cold weather compressor protection can be manually overridden at any time by changing the system mode to OFF momentarily, then back to HEAT.

Locking and Unlocking the Thermostat

Your 3-digit Lock Code is set in the “User Options” portion of this manual (See “Setting User Options”, page 6 and 9). Once the code is set, the thermostat can be locked or unlocked at any time by entering that code.

To lock or unlock the thermostat, press and hold the **DAY/TIME** and **HOLD** buttons together for 5 seconds. The screen will change, displaying 000 and LOCK will be flashing. Press the SpeedBar® **▲** or **▼** to enter the first digit of your lock code and then press **NEXT*** to advance to the next digit. Repeat this process to enter the second and third digit of your lock code. After entering the third digit, press **RETURN**.



**BACK and NEXT are secondary functions of the PROG and HOLD buttons.*

Locking and Unlocking the Thermostat *(continued)*

If you entered a valid code the thermostat will be locked or unlocked (depending on its previous state). When locked, the word **LOCKED** appears in the display (Figure 1). If an invalid code is entered the word **NO** will briefly appear, indicating that an incorrect code was entered (Figure 2).

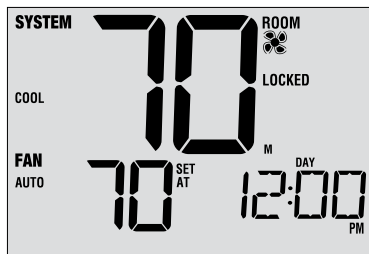


Figure 1

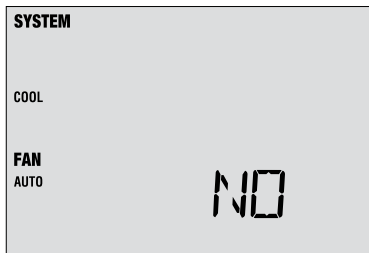
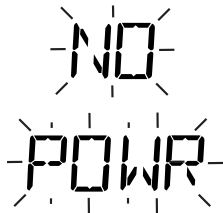


Figure 2

AC Power Monitor

The AC Power Monitor feature is enabled in the Installer Settings (See Installer Manual). If enabled, this feature will automatically be present. If your thermostat was hardwired (power provided from the system with batteries as a backup) then the AC Power Monitor feature will indicate when a loss of power to the thermostat has occurred by displaying NO POWR.



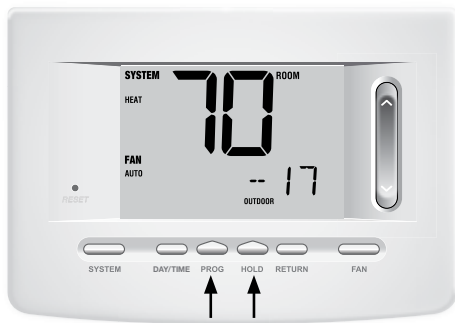
Indoor Remote Sensing

Indoor remote sensing is achieved by installing a Braeburn® remote indoor sensor and is configured in the Installer Settings (See Installer Manual). If a Braeburn indoor remote sensor was installed and properly configured in the Installer Settings, the thermostat will sense temperature at a remote location or at a combination of a remote location and the thermostat location.

Outdoor Remote Sensing

Outdoor remote sensing is enabled by installing a Braeburn® remote outdoor sensor. No additional configuration is required.

If a Braeburn outdoor remote sensor was installed you may press the **PROG** and **HOLD** buttons at the same time to view the outdoor temperature.



6 Thermostat Maintenance

Thermostat Cleaning

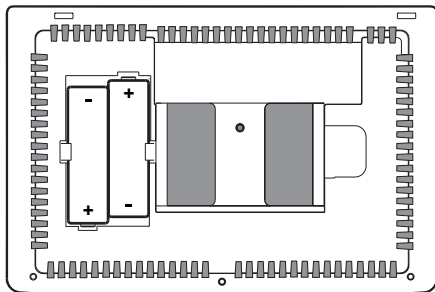
Never spray any liquid directly on the thermostat. Using a soft damp cloth wipe the outer body of the thermostat. Never use any abrasive cleansers to clean your thermostat.

Changing the Batteries

This thermostat requires two (2) properly installed “AA” alkaline batteries to maintain the thermostat clock and to provide power for the thermostat if 24 volt AC power is not connected. (See *Installer Manual*).

If batteries become low, a battery indicator will appear in the display. You should change your batteries immediately when you see the low battery signal by following these instructions.

1. Remove thermostat body by gently pulling it from base.
2. Remove old batteries and replace with new batteries.
3. Make sure to correctly position the (+) and (-) symbols.
4. Gently push thermostat body back onto base.



NOTE: We recommend replacing the thermostat batteries annually or if the thermostat will be unattended for an extended period of time.



Limited Warranty

When installed by a professional contractor, this product is backed by a 5 year limited warranty. Limitations apply. For limitations, terms and conditions, you may obtain a full copy of this warranty:

- Visit us online: www.braeburnonline.com/warranty
- Phone us: 866.268.5599
- Write us: Braeburn Systems LLC
2215 Cornell Avenue
Montgomery, IL 60538



Store this manual for future reference.



Braeburn Systems LLC
2215 Cornell Avenue • Montgomery, IL 60538
Technical Assistance: www.braeburnonline.com
Call us toll-free: 866-268-5599 (U.S.)
630-844-1968 (Outside the U.S.)