

User Manual

**PREMIER
SERIES**

Programmable Thermostat

This manual covers the following thermostat model:

4020 Heat Only Hydronic
with Freeze Protection

Read all instructions before proceeding.

Store this manual for future reference

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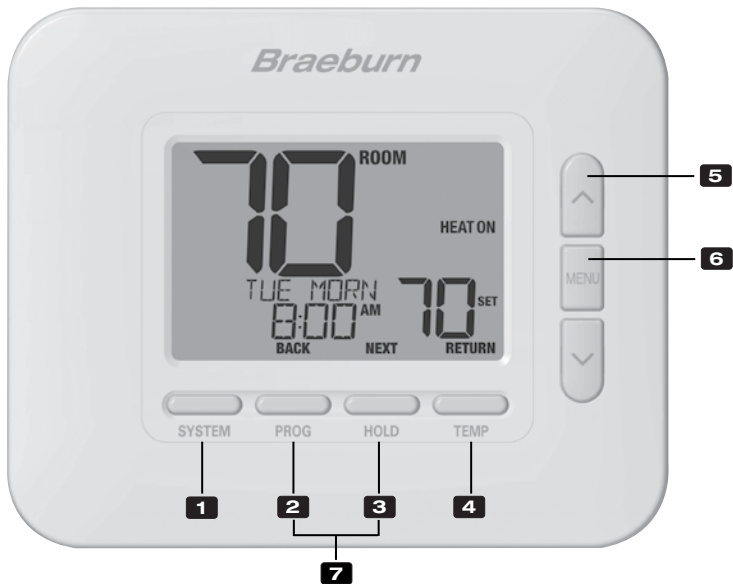
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Congratulations! You are in control of one of the easiest-to-use thermostats on the market today. This thermostat has been designed to provide you with years of reliable performance and comfort control.

Features

- Stylish new design with large display and bright blue backlight
- SpeedSet® programming gives you the option of programming all 7 days at once
- Convenient HOLD feature lets you override the program schedule
- Extra large display characters make viewing settings even easier
- Multi-level keypad lockout prevents unauthorized use
- Precise temperature accuracy keeps you in control of your comfort
- Minimum boiler off time adjustment
- Optional remote sensing
- Optional slab sensing for floor heat

1 About Your Thermostat

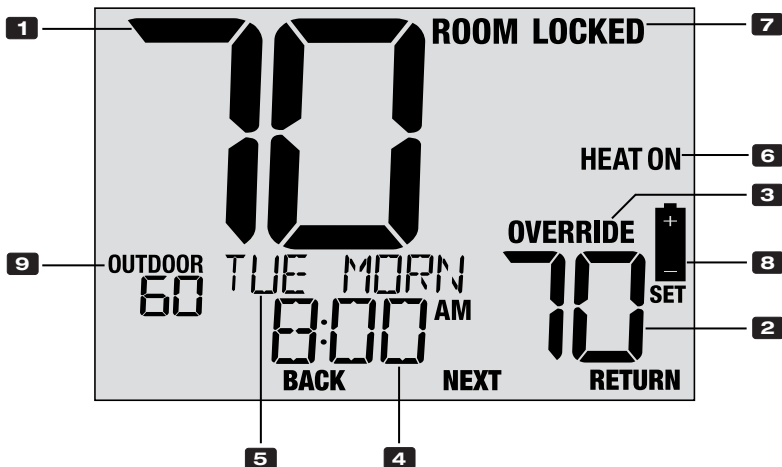


Thermostat

- 1 SYSTEM Button**Selects the system you want to control
- 2 PROG Button**Enters programming mode or hold for 3 seconds to enter SpeedSet® mode
- BACK Button***Secondary function of the **PROG** button - Moves to previous setting
- 3 HOLD Button**Enters / Exits **HOLD** mode (program bypass mode)
- NEXT Button***Secondary function of the **HOLD** button - Moves to next setting
- 4 TEMP Button**Press to view temperature at remote sensor
- RETURN Button***Secondary function of the **TEMP** button - Exits program or settings modes
- 5 Up / Down Arrow Buttons**.....Increases or decreases settings (time, temperature, etc.)
- 6 MENU Button**Used to access user settings mode
- 7 Lock / Unlock Thermostat**Access user Lock / Unlock screen by holding **PROG** and **HOLD** together for 5 seconds
- Battery Compartment** Located on the back side of thermostat

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

1 About Your Thermostat



Thermostat Display

- 1 Room Temperature**Displays the current room temperature
- 2 Set Temperature**Displays the current setpoint temperature
- 3 Override Indicator** Indicates that the current program schedule has been temporarily overridden
- 4 Time of Day** Displays the current time of day
- 5 Message Center** Displays various thermostat status and maintenance information
- 6 System Mode**Displays the system mode and current system status
- 7 Lock Mode Indicator** Indicates if the thermostat is locked
- 8 Low Battery Indicator** Indicates when the batteries need to be replaced
- 9 Outdoor Temperature** If a Braeburn® outdoor sensor is connected, the outdoor temperature will be displayed

2 User Settings

User Settings allow you set the current time of day as well as customize various thermostat features.

To access the User Settings, press and release the **MENU** button to display the first User Setting.

Press the **▲** or **▼** buttons to change the value for the displayed User Setting. After your desired setting is displayed, press **NEXT** (HOLD) to advance to the next User Setting. You may also press **BACK** (PROG) to move backwards through the User Settings.

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

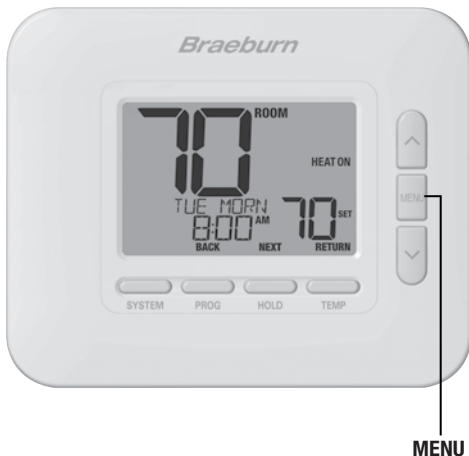


Table of User Settings

NOTE: Some user settings may not be available, depending on how the thermostat was configured during installation.

Time and Day						
No.	User Setting	Displayed	Default Setting	Available Settings	Description of Available Settings	
1	Current Time of Day (Hour)	SET TIME	12:00	1-12	Select the current hour of day	
					Set the current hour of the day. If thermostat was configured for a 24-hour clock, the settings 0-24 will be available.	
	2	Current Time of Day (Minute)	SET TIME	12:00	00-60	Select the current minute of the hour
Set the current minute of the hour.						
3	Current Day of Week	SET DAY	MON	MON-SUN	Select the current day of the week	
					Set the current day of the week.	

Backlight	No.	User Setting	Displayed	Default Setting	Available Settings	Description of Available Settings
	4	Constant Backlight	BACKLITE	AUTO	AUTO	Backlight only turns on with button press
					ON	Backlight is always on
					<i>[Only available if thermostat is hardwired with a 24 VAC common (C) wire]</i> Select AUTO (default) for backlight to turn on only with the press of a button. Backlight will turn off automatically after approximately 10 seconds. Select ON for backlight to remain on at all times.	
	5	Backlight Brightness	BACKLITE	3	1, 2, 3, 4, 5	Select the level of backlight brightness
						<i>[Only available if thermostat is hardwired with a 24 VAC common (C) wire]</i> Select the level of backlight brightness with 5 being the brightest.

No.	User Setting	Displayed	Default Setting	Available Settings	Description of Available Settings
6	Temperature Hold Time (HOLD Button)	HOLD	LONG	LONG	Select for long (permanent) HOLD mode
				24HR	Select for 24 hour (temporary) HOLD mode
	[Only available if programming is enabled] Temperature Hold Time lets you select the time that your thermostat will hold the temperature when the HOLD button has been pressed. 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 temperature.				
7	Temperature Override Adjustment Limit	ADJ LIMIT	OFF	OFF	Disables adjustment limit
				1, 2, 3	Select adjustment limit of 1°, 2° or 3°
	The Temporary Override Adjustment Limit will limit how much the temperature can be adjusted from the current setpoint temperature. 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 setpoint.				
8	Program Override Time Limit	OVERRIDE	4 HR	4 HR, 3 HR 2 HR, 1 HR	Select a program override time limit of 1-4 hours
				[Only available if programming is enabled] 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 override has been made. You may select 1, 2, 3 or 4 hours.	
	9	Thermostat Lock Code	SET LOCK	000	0-9
The Thermostat Lock Code sets a 3-digit code that you may use at any time to lock or unlock the thermostat keypad. Setting the 3-digit code does not activate the lock feature. To lock or unlock the thermostat, see Locking/Unlocking Thermostat, section 5. The lock code 000 cannot be used.					

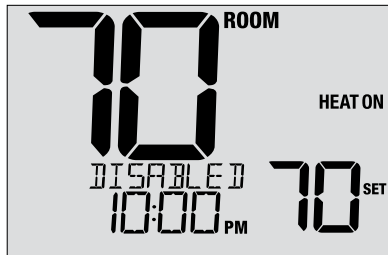
3 Setting Your Program Schedule

Tips Before Setting Your Program Schedule

- Make sure your current time and day of the week are set correctly.
- Make sure the AM and PM indicators are correct.
- Various installer settings and temperature adjustment limits may affect your programming flexibility.
- Your NITE event cannot exceed 11:50 p.m.
- **BACK**, **NEXT** and **RETURN** are secondary functions of the **PROG**, **HOLD** and **TEMP** buttons.

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

- Residential 7-day programming mode with 4 events per day
- 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 to be non-programmable, then you cannot set a program schedule. If you press the **PROG** or **HOLD** buttons, the word “DISABLED” will appear in the display.

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 in each of your 4 daily events. If you wish to use these settings, then no further programming is necessary:

Residential 7 Day Programming <i>Factory Settings</i>		5-2 Day Programming Weekday/Weekend <i>Factory Settings</i>	
4 Event	All Days	Weekday	Weekend
MORN	Time: 6:00 am Heat: 70° F (21° C)	Time: 6:00 am Heat: 70° F (21° C)	Time: 6:00 am Heat: 70° F (21° C)
DAY	Time: 8:00 am Heat: 62° F (17° C)	Time: 8:00 am Heat: 62° F (17° C)	Time: 8:00 am Heat: 62° F (17° C)
EVE	Time: 6:00 pm Heat: 70° F (21° C)	Time: 6:00 pm Heat: 70° F (21° C)	Time: 6:00 pm Heat: 70° F (21° C)
NITE	Time: 10:00 pm Heat: 62° F (17° C)	Time: 10:00 pm Heat: 62° F (17° C)	Time: 10:00 pm Heat: 62° F (17° C)

Setting a 7-Day program – All 7 Days at Once (SpeedSet®)

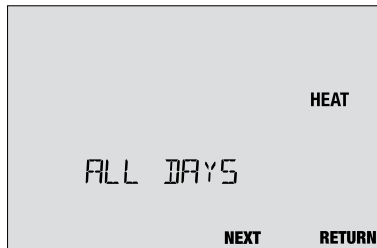
(7-day programming mode only)

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

Available Daily Events

MORN, DAY, EVE, NITE

1. Hold the **PROG** button for 3 seconds until ALL DAYS appears.
2. Press **▲** or **▼** to adjust the hour for the first event. Press **NEXT**.
3. Press **▲** or **▼** to adjust the minute for the first event. Press **NEXT**.
4. Press **▲** or **▼** to adjust the temp for the first event. Press **NEXT**.
5. Repeat steps 2-5 for the remaining daily events.
6. Press **RETURN** to exit.



Setting a 7-Day program – Individual Days

(7-day programming mode only)

Available Daily Events

MORN, DAY, EVE, NITE

1. Press and release the **PROG** button.
2. Press **SYSTEM** to select HEAT.
3. Press **▲** or **▼** to select the day you want to program. Press **NEXT**.
4. Press **▲** or **▼** to adjust the hour for the first event. Press **NEXT**.
5. Press **▲** or **▼** to adjust the minute for the first event. Press **NEXT**.
6. Press **▲** or **▼** to adjust the temp for the first event. Press **NEXT**.
7. Repeat steps 4-6 for your remaining daily events.
8. If needed, repeat steps 3-6 to program additional days.
9. Press **RETURN** to exit.

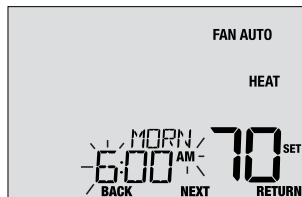


Setting a 5-2 Day Weekday/Weekend Program

(5-2 day programming mode only)

Available Daily Events: MORN, DAY, EVE, NITE

1. Press and release the **PROG** button.
2. Press **SYSTEM** to select HEAT.
3. Press **▲** or **▼** to select WEEKDAYS or WEEKEND. Press **NEXT**.
4. Press **▲** or **▼** to adjust the hour for the first event. Press **NEXT**.
5. Press **▲** or **▼** to adjust the minute for the first event. Press **NEXT**.
6. Press **▲** or **▼** to adjust the temp for the first event. Press **NEXT**.
7. Repeat steps 4-6 for your remaining daily events.
8. If needed, repeat steps 3-6 to program additional days.
9. Press **RETURN** to exit.



4 Operating Your Thermostat

Setting the SYSTEM Control Mode

The System Control has 2 modes of operation – OFF and HEAT. The mode can be selected by pressing the **SYSTEM** button to scroll through the different system modes.

OFF Heating system is off

HEAT Only your heating system will operate

NOTE: Freeze protection is still active in OFF mode. This can cause the heating system to run in OFF mode to prevent freezing. See the Installer Manual for more details.

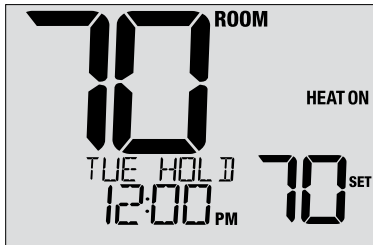
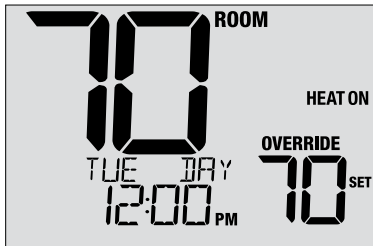


Temperature Adjustment

Temporary Adjustment (OVERRIDE) – Press **▲** or **▼** to adjust the current set temperature. The set temperature will change back to your programmed temperature a few hours later or at the start of the next scheduled program event. **OVERRIDE** will appear in the display during the entire override period.

Extended Adjustment (HOLD) – Press the **HOLD** button to override all programming. You can continue to use the **▲** or **▼** buttons to adjust the current set temperature. Press **HOLD** again to resume the program schedule. You can limit your hold time to 24-hours by adjusting User Setting 6 in section 2.

NOTE: If your thermostat was configured to be non-programmable, **HOLD** and **OVERRIDE** are not available.



Program Event Indicators

Program event indicators appear in the display to let you know what part of your current program is active.

Events: MORN, DAY, EVE or NITE

When OVERRIDE appears, your program has been temporarily overridden and will resume in 1-4 hours depending on the selection for User Setting 8 in section 2. The program will also resume at the beginning of the next scheduled program event.

NOTE: *If your thermostat was configured to be non-programmable, or is in HOLD mode, you will not see a Program Event or OVERRIDE indicator.*



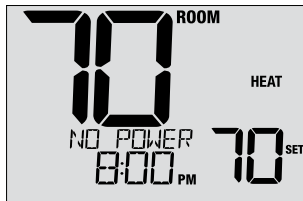
System Status and Maintenance Indicators

Status indicators are messages or symbols that appear in the display to let you know what function your system is currently performing. They are also used to inform you of various service and maintenance functions.

HEAT ON The heating system is running.

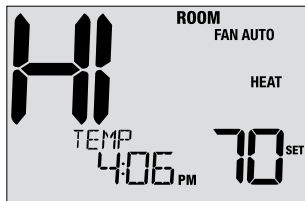
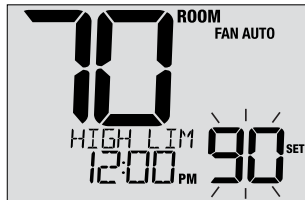
LOCKED Thermostat has been fully or partially locked.
See Locking and Unlocking thermostat, section 5.

NO POWER AC power to thermostat has been lost. Only available if thermostat is hardwired and thermostat is configured for power monitoring.



System Status and Maintenance Indicators *(continued)*

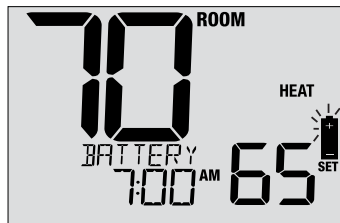
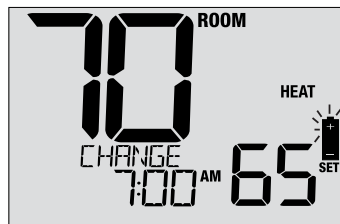
- HIGH LIM** Setpoint temperature has reached its upper limit maximum.
- LOW LIM** Setpoint temperature has reached its lower limit maximum.
- HI TEMP** Room temperature has risen above the display range.
- LO TEMP** Room temperature has fallen below the display range. Heat will still operate to help raise temperature.



System Status and Maintenance Indicators *(continued)*

CHANGE BATTERY

If batteries are installed and they become low, the battery symbol appears in the display. When the batteries become critically low, the battery symbol will flash, and CHANGE / BATTERY will alternate in the display (see “Changing the Batteries” in section 7).



5 Additional Operating Features

Adaptive Recovery Mode (ARM™)

If enabled, Adaptive Recovery Mode attempts to achieve your desired heating 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, or if the program is temporarily overridden.

Locking and Unlocking the Thermostat

Your 3-digit Lock Code is set in the User Settings portion of this manual (section 2). 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 **PROG** and **HOLD** buttons together for 5 seconds. While holding these buttons, LOCK will flash in the display (Figure 1).

The screen will change displaying LOCK CODE 000 (Figure 2). Press **▲** or **▼** to enter the first digit of your lock code and then press the **NEXT** button 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 **NEXT** to advance to the next User Setting or **RETURN** to exit.

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 3). If an invalid code is entered, WRONG CODE will briefly appear in the display.



Figure 1



Figure 2



Figure 3

Outdoor Remote Sensing

If a Braeburn outdoor sensor was installed, the outdoor temperature will be displayed in the screen.

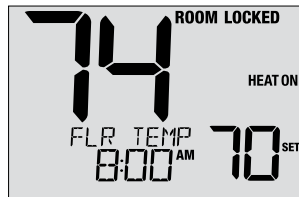
Indoor Remote Sensing

Remote sensing is achieved by installing a Braeburn remote indoor or floor sensor.

If a Braeburn remote sensor was installed and properly configured, the thermostat will sense temperature at a remote location or an average of a remote location and the thermostat location or in the floor.

Reviewing Sensor Temperature

If a remote sensor is connected, you can press TEMP to review the current reading at the remote sensor.



6 Thermostat Maintenance

Changing the Batteries

Depending on your installation, this thermostat may be equipped with two (2) "AA" type alkaline batteries.

If batteries are installed and they become low, the battery symbol appears in the display. When the batteries become critically low, the battery symbol will flash, and CHANGE / BATTERY will alternate in the display.

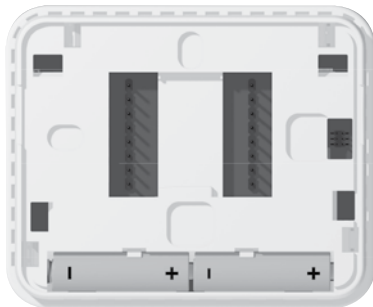
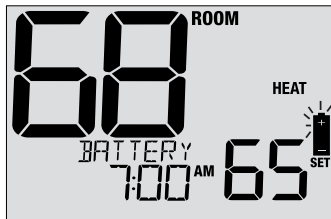
To change your batteries:

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.

Thermostat Cleaning

Never spray any liquid directly on the thermostat. Spray your cleaning liquid on a soft cloth and then proceed to clean the screen with the damp cloth. Only use water or household glass cleaner. Never use any abrasive cleansers to clean your thermostat.



For more information, visit www.braeburnonline.com

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 or write us: Braeburn Systems LLC, 2215 Cornell Avenue, Montgomery, IL 60538.



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