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Braeburn[®]

Braeburn 4020 Programmable Thermostat

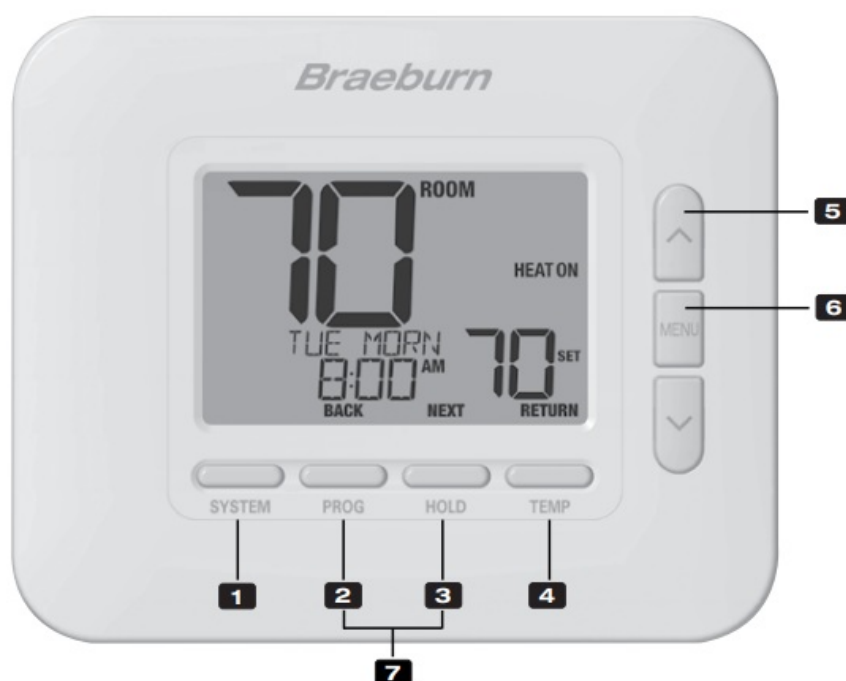


Congratulations! You are in control of one of the easiest-to-use thermostats on the market today. This thermostat has been designed to provide you with years of reliable performance and comfort control.

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

About Your Thermostat



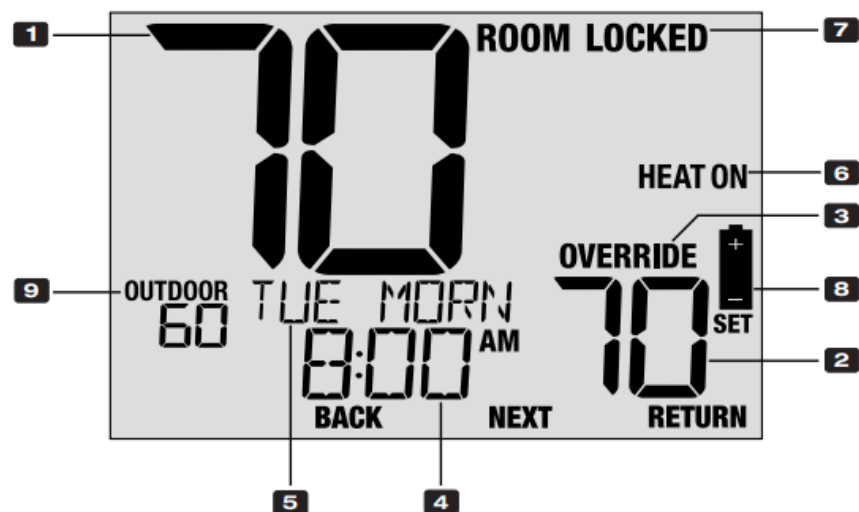
Thermostat

1. SYSTEM ButtonSelects the system you want to control
2. PROG ButtonEnters 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 ButtonEnters / Exits HOLD mode (program bypass mode)
 - NEXT Button*.....Secondary function of the HOLD button – Moves to next setting
- 4. TEMP Button.....Press to view the 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 the 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

About Your Thermostat



Thermostat Display

1. Room TemperatureDisplays the current room temperature
2. Set TemperatureDisplays 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 ModeDisplays 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

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.

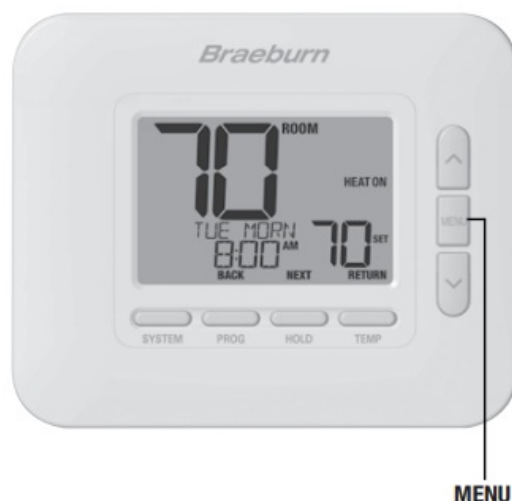


Table of User Settings

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

	No.	User Setting	Displa yed	Defa ult S ettin g	Availa ble Se ttings	Description of Available S ettings
Time and Da y	1	Current Time of Day (Hour)	SET TIME	12:0 0	1-12	Select the current hour of d ay
		Set the current hour of the day. If thermostat was configured for a 24-ho ur clock, the settings 0-24 will be available.				
	2	Current Time of Day (Minute)	SET TIME	12:0 0	00-60	Select the current minute of the hour
		Set the current minute of the hour.				
	3	Current Day o f Week	SET D AY	MON	MON- SUN	Select the current day of the week
		Set the current day of the week.				

	No.	User Setting	Displa yed	Defa ult S ettin g	Availa ble Se ttings	Description of Available S ettings
4		Constant Bac klight	BACK LITE	AUT O	AUTO	Backlight only turns on with button press
					ON	Backlight is always on

Backlight		<p>[Only available if thermostat is hardwired with a 24 VAC common (C) wire] 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.</p>				
	5	Backlight Brightness	BACK LITE	3	1, 2, 3, 4, 5	Select the level of backlight brightness
		<p>[Only available if thermostat is hardwired with a 24 VAC common (C) wire] Select the level of backlight brightness with 5 being the brightest.</p>				

	No.	User Setting	Displa yed	Defa ult S ettin g	Availa ble Se ttings	Description of Available S ettings
	6	Temperature Hold Time (H OLD Button)	HOLD	LON G	LONG	Select for long (permanent) HOLD mode
					24HR	Select for 24 hour (temporar y) HOLD mode
		[Only available if programming is enabled] Temperature Hold Time l ets you select the time that your thermostat will hold the temperature w hen the HOLD button has been pressed. When LONG is selected, the t hermostat will hold your temperature indefinitely. When 24HR is selecte d, the thermostat will hold your temperature for 24 hours and then return to the current program temperature.				
		Temperature	ADJ LI	OFF	OFF	Disables adjustment limit

Temperature and Lock Code	7	Override Adjustment Limit	MIT		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	OVER RIDE	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	Select a 3-digit lock code of 0-9 for each digit
		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.				

No.	User Setting	Displayed	Default Setting	Available Settings	Description of Available Settings
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RESET	10	User Reset	RESET	NO	NO	Reset disabled – no changes made
					YES	Reset enabled – resets thermostat
		Selecting YES will reset all user settings, program and current time. Thermostat lock code and Installer Settings will not be affected.				

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)

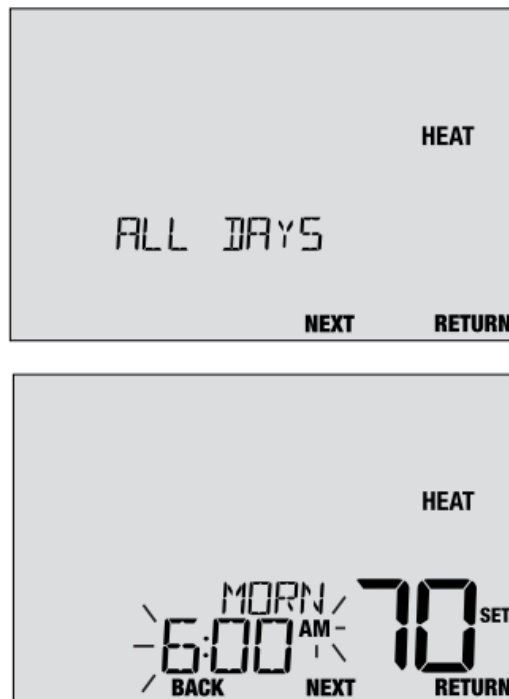
Setting a 7-Day program – All 7 Days at Once (SpeedSet®)

1. (7-day programming mode only)

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

Available Daily Events

1. **MORN, DAY, EVE, NITE**
2. Hold the PROG button for 3 seconds until ALL DAYS appears.
3. Press or to adjust the hour for the first event. Press NEXT.
4. Press or to adjust the minute for the first event. Press NEXT.
5. Press or to adjust the temp for the first event. Press NEXT.
6. Repeat steps 2-5 for the remaining daily events.
7. 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.



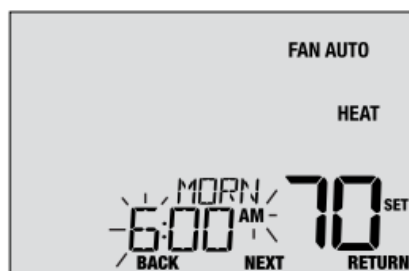
Setting a 5-2 Day Weekday/Weekend Program

(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.
- Press RETURN to exit.



Operating Your Thermostat

- Setting the SYSTEM Control Mode
- The System Control has two modes of operation: OFF and HEAT. The mode can be selected by pressing the SYSTEM button to scroll through the different system modes.
- The 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 indicate which 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.

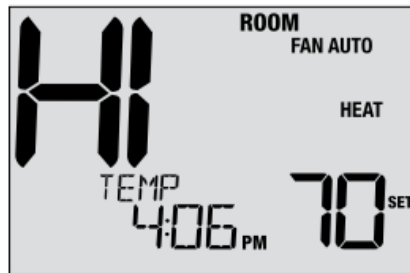
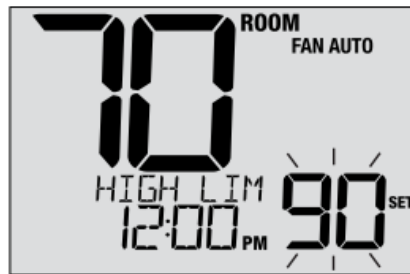
LOCKED Thermostat has been fully or partially locked. See Locking and Unlocking thermostat, section 5.

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



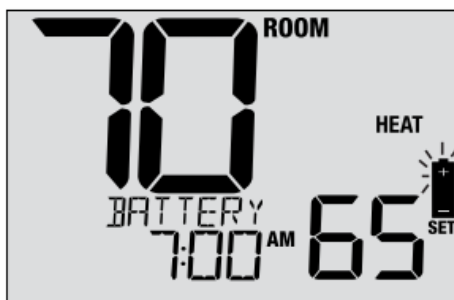
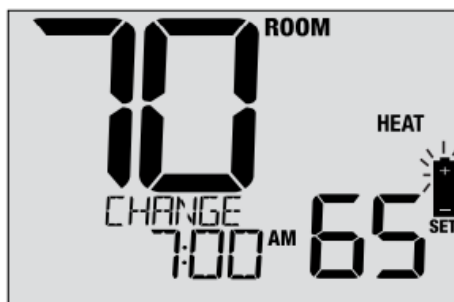
System Status and Maintenance Indicators (continued)

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



System Status and Maintenance Indicators (continued)

- **CHANGE** If batteries are installed and they become
- The battery 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).



Additional Operating Features

Adaptive Recovery Mode (ARMTM)

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 to 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.



Figure 1



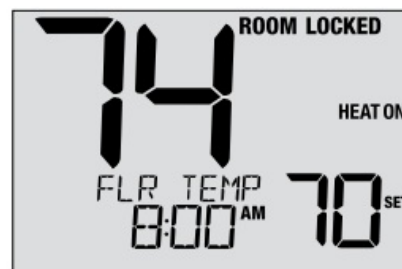
Figure 2



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.



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.

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.

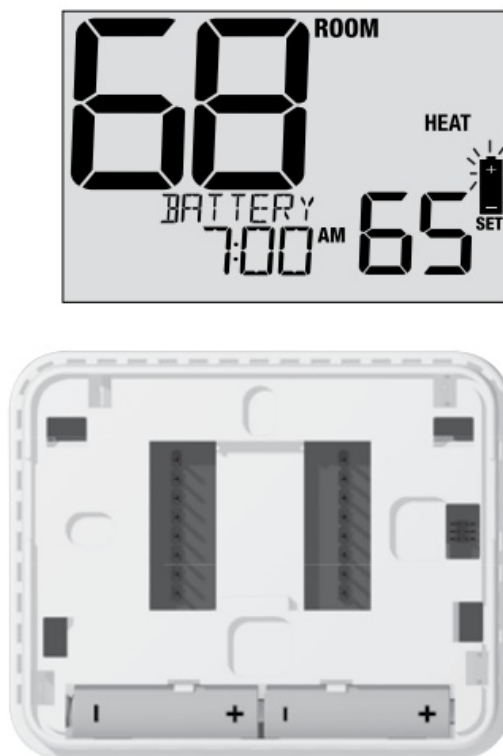
To change your batteries:

1. Remove the 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 the 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.



FAQS


Q: How do I reset the thermostat?

A: To reset the thermostat, refer to page 12 of the user manual for detailed instructions on resetting the device.

Q: How can I lock or unlock the thermostat?

A: To lock or unlock the thermostat, hold down the PROG and HOLD buttons together for 5 seconds to access the Lock/Unlock screen.

Documents / Resources

	Braeburn 4020 Programmable Thermostat [pdf] User Manual 4020-110-03, 4020, 4020 Programmable Thermostat, 4020, Programmabl e Thermostat, Thermostat
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References

- [User Manual](#)

■ Braeburn

◆ 4020, 4020 Programmable Thermostat, 4020-110-03, Braeburn, PROGRAMMABLE THERMOSTAT, Thermostat

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