

User Manual

Economy
Series

Programmable Thermostat

This manual covers the following thermostat model:

2232 Up to 3 Heat / 2 Cool Heat Pump
Up to 2 Heat / 2 Cool Conventional

Read all instructions before proceeding.

Store this manual for future reference

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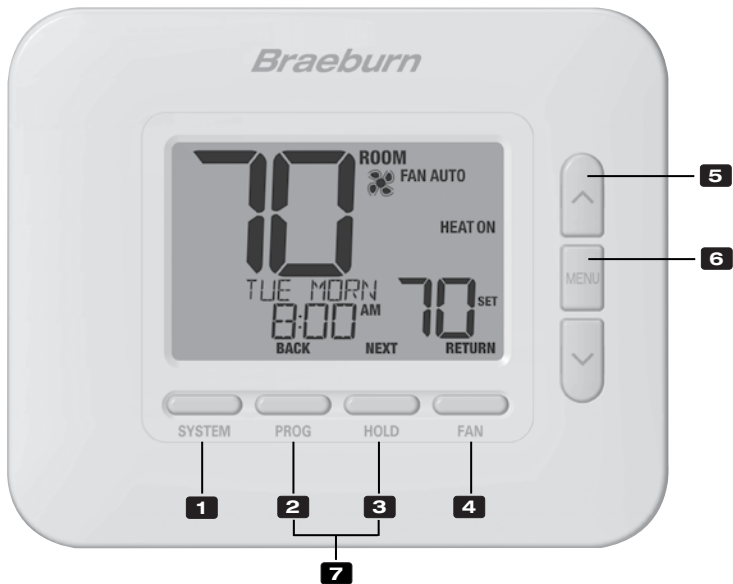
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Congratulations! You are in control of one of the easiest-to-use thermostats on the market today. This thermostat has been designed to provide you with years of reliable performance and comfort control.

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
- User selectable service monitor reminds you of required filter maintenance
- Multi-level keypad lockout prevents unauthorized use
- Precise temperature accuracy keeps you in control of your comfort
- Convenient circulating fan mode
- Optional indoor or outdoor remote sensing

1 About Your Thermostat

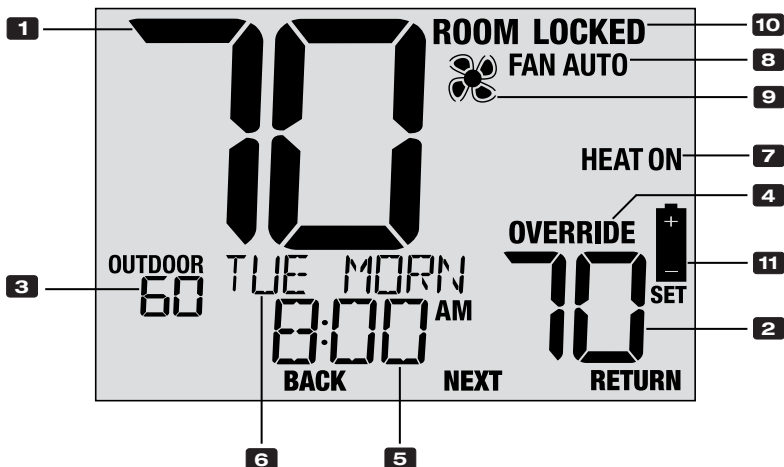


Thermostat

- 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 FAN Button**Selects the system fan mode
- RETURN Button***Secondary function of the **FAN** 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 (if installed)

* **BACK**, **NEXT** and **RETURN** are secondary functions of the **PROG**, **HOLD** and **FAN** buttons. When in programming or configuration modes, **BACK**, **NEXT** and **RETURN** appear in the display screen indicating that the **PROG**, **HOLD** and **FAN** 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 Outdoor Temperature**If a Braeburn® outdoor sensor was connected the outdoor temperature will be displayed
- 4 Override Indicator**Indicates that the current program schedule has been temporarily overridden
- 5 Time of Day**Displays the current time of day
- 6 Message Center**Displays various thermostat status and maintenance information
- 7 System Mode**Displays the system mode and current system status
- 8 Fan Mode Indicator**Indicates the current system fan mode
- 9 Fan Status Indicator**Indicates that the system fan is running
- 10 Lock Mode Indicator**Indicates if the thermostat is locked
- 11 Low Battery Indicator**Indicates when the batteries need to be replaced

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** (FAN) to exit.

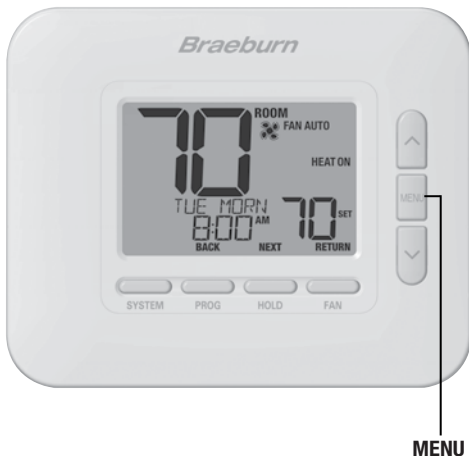


Table of User Settings

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

No.	User Setting	Displayed	Default Setting	Available Settings	Description of Available Settings
1	Reset SERVICE FILTER Message	RESET FILTER	NO	NO	Select to keep message displayed
				YES	Select to remove message and reset timer
	[Only appears if the service filter time interval has expired] If a service filter time interval was selected in setting 7, the thermostat will display a SERVICE FILTER message once that time interval is reached. Select NO to keep the message displayed or select YES to clear the message and reset the timer.				
2	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.
3	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.
4	Current Day of Week	SET DAY	MON	MON-SUN	Select the current day of the week
					Set the current day of the week.

No.	User Setting	Displayed	Default Setting	Available Settings	Description of Available Settings
5	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.				
6	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.				
7	Service Filter Timer	FILTER	OFF	OFF	Service filter timer is disabled
				30, 60, 90, 120, 180, 365	Select number of days for service filter timer
	<i>[Not available on heat-only hydronic systems]</i> Select the number of days before receiving a reminder to change your system filter (if equipped). When the timer interval has expired, the thermostat will display the message SERVICE FILTER. To reset this reminder, see setting 1. To disable, select OFF.				

No.	User Setting	Displayed	Default Setting	Available Settings	Description of Available Settings
8	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.				
9	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.	
10	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.
11	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.				

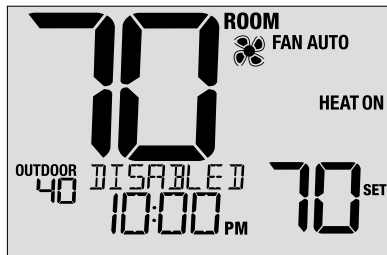
3 Setting Your Program Schedule

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 such as auto changeover mode 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 FAN buttons.

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

- 7-day programming mode with 4 events per day
- 5-2 (weekday/weekend) programming mode with 4 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 heating and cooling 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) Cool: 78° F (26° C)	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)	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)	Time: 6:00 pm Heat: 70° F (21° C) Cool: 78° F (26° C)
NITE	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)	Time: 10:00 pm Heat: 62° F (17° C) Cool: 82° F (28° C)

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

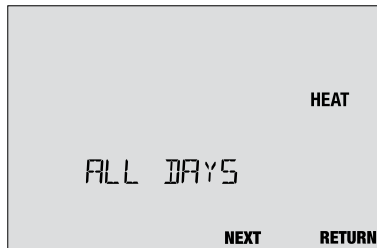
(7-day programming mode only)

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 **SYSTEM** to select HEAT or COOL. Press **NEXT**.
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 3-5 for the remaining daily events.
7. If needed, repeat steps 2-6 to program the opposite mode.
8. 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 or COOL.
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 3-7 to program additional days.
9. If needed, repeat steps 2-7 to program the opposite mode.
10. 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 or COOL.
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 3-7 to program additional days.
9. If needed, repeat steps 2-8 to program the opposite mode.
10. Press **RETURN** to exit.



4 Operating Your Thermostat

Setting the **SYSTEM** Control Mode

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

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

COOL Only your cooling system will operate.

OFF Heating and cooling systems are off.

HEAT Only your heating system will operate

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

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



Setting the FAN Control Mode

The Fan Control has 3 modes of operation – AUTO, ON and CIRC. The mode can be selected by pressing the **FAN** button to scroll through the different fan 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 temperature when the heating or cooling system is not active.

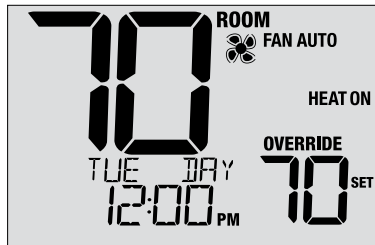


Temperature Adjustment

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 8 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.

- Available 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 9 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.

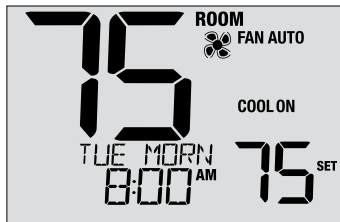
COOL ON The cooling system is running.

HEAT ON AUX The auxiliary stage of heating is running (multistage systems only).

**EMERGENCY
HEAT ON** The emergency heating system is running (heat pump systems only).



Indicates that the system fan is running.

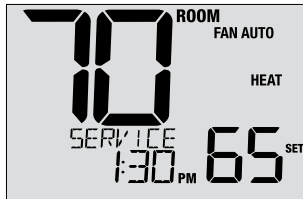


System Status and Maintenance Indicators *(continued)*

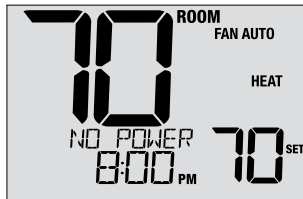
LOCKED Thermostat has been fully or partially locked.
See Locking and Unlocking thermostat, section 5.



SERVICE A user selectable service reminder for changing the filter has been triggered. To set or reset these reminders, see User Options, section 2.



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)*

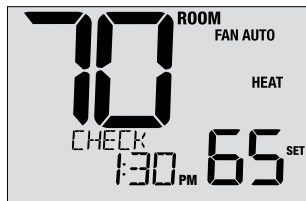
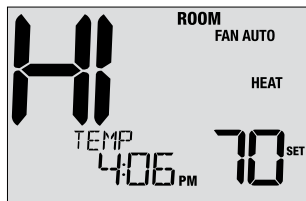
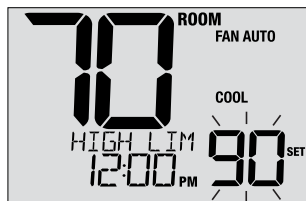
HIGH LIM Setpoint temperature has reached its upper limit maximum.

LOW LIM Setpoint temperature has reached its lower limit maximum.

HI TEMP Room temperature has risen above the display range. Cooling will still operate to help lower temperature.

LO TEMP Room temperature has fallen below the display range. Heat will still operate to help raise temperature.

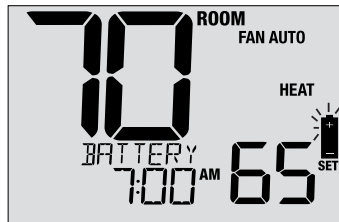
CHECK SYSTEM Indicates that there is a potential problem with your system. Contact a local service technician. Display will alternate between CHECK / SYSTEM.



System Status and Maintenance Indicators *(continued)*

CHANGE BATTERY

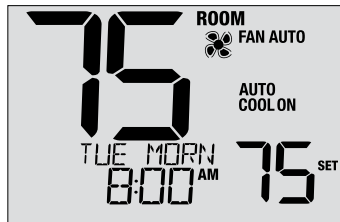
If batteries are installed and they become low, the battery symbol appears in the display. When the batteries become critically low, the battery symbol will flash, and CHANGE / BATTERY will alternate in the display (see “Changing the Batteries” in section 6).



5 Additional Operating Features

Auto Changeover Mode

When Auto Changeover mode is enabled and selected, the system automatically switches between heating and cooling when the room temperature meets the current heating or cooling set points. To operate properly, the thermostat maintains a forced separation between the heating and cooling setpoints to prevent these systems from working against each other. If a setting is made in either heating or cooling which violates the forced separation, the opposite mode will adjust up or down accordingly to maintain the current forced separation.



Select Auto Changeover Mode by pressing the SYSTEM button until AUTO HEAT or AUTO COOL appears in the display. Whichever system was running last will remain in the display until the opposite system runs.

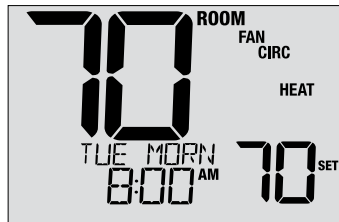
Adaptive Recovery Mode (ARM™)

If enabled, Adaptive Recovery Mode attempts to achieve 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 to 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.

Circulating Fan Mode

Circulating Fan Mode is selected by touching the FAN button until CIRC appears in the display. When in CIRC mode the fan operates as required by the heating and cooling system (just like AUTO mode). When heating or cooling is not active, fan will run as needed to ensure a 35% minimum run time.



Compressor Protection

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 multistage 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. During this lockout period, the thermostat will operate the auxiliary stage of heating.

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

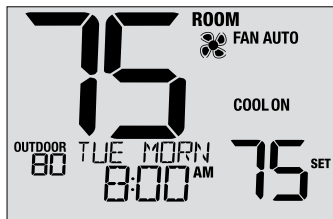
Outdoor remote sensing is achieved by installing a Braeburn® remote outdoor sensor (model 5490).

When properly connected, the current outdoor temperature can be viewed in the left side of the display. An outdoor sensor can also be used in certain Heat Pump applications for heating and cooling balance points.

Indoor Remote Sensing

Indoor remote sensing is achieved by installing a Braeburn remote indoor sensor (model 5390).

If a Braeburn indoor 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.



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.

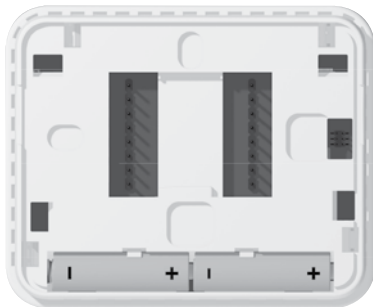
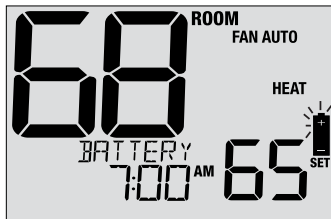
To change your batteries:

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.



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.)