

NON-PROGRAMMABLE DIGITAL THERMOSTAT

INSTALLATION AND OPERATING INSTRUCTIONS

LIT-12013397 52205

IMPORTANT!

- Please read all of these instructions carefully before beginning installation.
- Label every wire terminal designation on your existing thermostat wiring before removing your old thermostat.
- Ignore the color of the wires since they may not comply with any standard. Please connect wires using the terminal letter designations.

Thank you for your confidence in our product. To obtain the best results from your investment, please read and follow the installation procedures carefully, and one step at a time. This will save you time and minimize the chance of damaging either the thermostat or possibly your heating and cooling system. These instructions may contain information beyond that which may be required for your particular installation.

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WARNING: Use Energizer® or DURACELL® Alkaline Batteries Only.

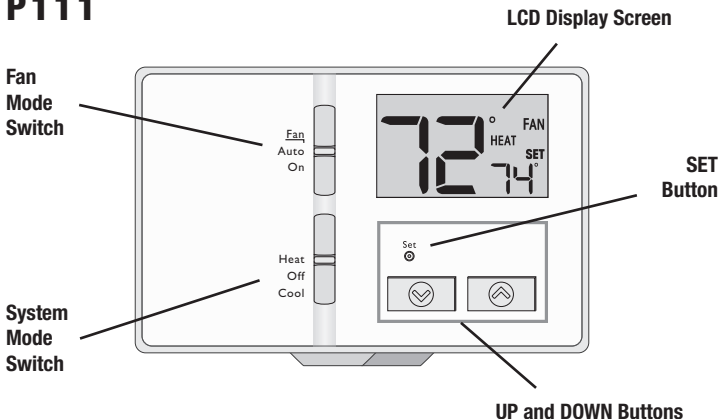
Energizer® is a registered trademark of Eveready Battery Company, Inc.

DURACELL® is a registered trademark of The Procter & Gamble Company

CAUTIONS AND WARNINGS:

- This thermostat requires batteries to operate and failure or sub-standard performance of the batteries may impair or prevent the correct operation of the thermostat. Use Duracell® or Energizer® alkaline batteries ONLY for all LUXPRO thermostats requiring batteries. BE SURE TO CHANGE THE BATTERIES AT LEAST ONCE A YEAR, or whenever you see the LO BATT indication on the screen. Failure to follow these battery instructions could result in property damage and/or personal injury.
- The electrical rating for this thermostat is 1.5 Amps per terminal, with a maximum total load of 2.0A for all terminals combined.
- The thermostat contains parts that may wear out through use and are susceptible to failure if over-loaded or used in a manner other than as indicated in the documentation.
- Check unoccupied residences regularly to ensure that all systems are operating properly.
- Check any heating/air-conditioning system including this product before operation and at regular intervals.
- Electrical interference, static electricity, failure or substandard performance of batteries, wiring defects in the installation and/or characteristics of the connected HVAC devices may prevent the system from regulating heating and cooling as anticipated.
- The thermostat is a sensitive device and dropping the product can cause damage to critical components. If the product is dropped or shaken violently during transport or installation then it should be replaced immediately.
- Persons with physical or mental limitations may not be able to promptly respond to a malfunction of the heating/air-conditioning system.
- All residents should be made aware of the potential in any system for malfunctions that could cause continuous heating or cooling and should be familiar with the operation and location of the heating/cooling appliance on/off switch.
- Read the instruction manual completely before installing the thermostat. You should consult a qualified HVAC technician or an electrician if you do not fully understand the installation instructions.

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SYSTEM COMPATIBILITY:

The electrical rating for this thermostat is 1.5 Amps per terminal, with a maximum total combined load of 2.0A for all terminals combined.

COMPATIBLE WITH:

- Most single-stage 24-volt, heating and cooling systems
- 1 stage heat / 1 stage cool: gas, oil, or electric systems
- Single-stage heat pump systems (without auxiliary or emergency heat)
- 2-wire hydronic (hot water) zone valves
- Millivolt heaters (including wall heaters / gas fireplaces)

NOT COMPATIBLE WITH:

- 120/240 VAC line-voltage systems (without a transformer)
- Multi-stage heat pump systems (with auxiliary or emergency heat)
- 3-wire hydronic (hot water) zone valves

(ask your LUXPRO dealer for thermostats to control these systems)

FEATURES:

- Non-programmable operation
- Lighted display
- Keypad lockout for unauthorized users
- Adjustable temperature differential / cycle-rate
- User temperature calibration
- Adjustable heat/cool set temperature limit stops
- Dual-powered (battery and/or 24-volt system powered)
- F/C temperature display
- 5/2-minute selectable time delay for equipment protection

TOOLS YOU MAY NEED:

- Screwdrivers
- Wire Stripper
- Wire Cutter
- Drill with assorted drill bits (new installations only)

MOUNTING LOCATION:

On replacement installations, mount the new thermostat in place of the old one unless the conditions listed below suggest otherwise. On new installations, please follow these general guidelines:

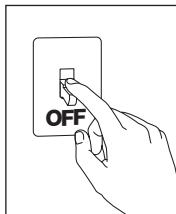
1. Mount the thermostat on an inside wall, about 5 ft. (1.5m) above the floor.
2. Do not locate the thermostat where air circulation is poor such as in a corner, alcove, or behind a door that is normally left open.
3. Do not locate the thermostat where unusual heating or cooling conditions may be present, such as: direct sunlight, above a lamp, television, or radiator, or on a wall next to an exterior door or window.
4. Do not locate in a damp environment, as this can lead to corrosion that may shorten thermostat life.
5. If painting or construction work is still ongoing, cover the thermostat completely or wait until this work is complete before installation.

WARNING:

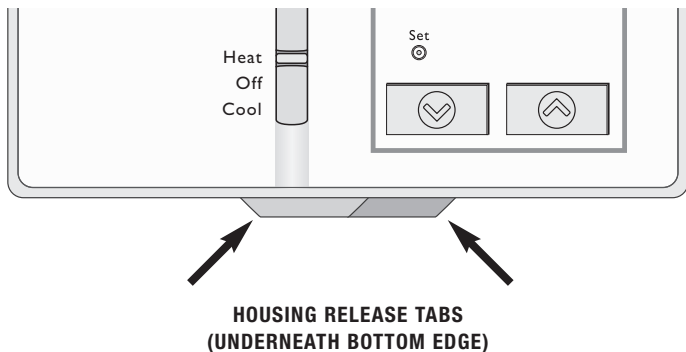
All wiring must conform to the local codes and ordinances that are in your particular location.

REMOVE OLD THERMOSTAT:

1. Turn OFF the electricity to all heating and cooling components. Do not turn the electricity back on until all work is completed.
2. Remove the front portion of your old thermostat to expose the wiring connections.
3. Write down the letters printed near each wire terminal that is used, and also the color of each wire that is connected to it. Self-adhesive wire labels are also enclosed.
4. Carefully remove the wires one at a time, and bend them in a manner so that they do not fall back inside the wall. Do not allow bare wire ends to touch each other.
5. Loosen the mounting screws for the old thermostat and carefully remove it from the wall.



INSTALL THERMOSTAT BASE:



1. Strip wire insulation leaving only 3/8 in. (9.5mm) bare wire ends, and clean off any corrosion present.
2. Fill the wall opening with non-combustible insulation to prevent drafts from affecting the thermostat's normal operation.
3. Separate new thermostat housing using your thumb and index finger. Provide pressure in opposite directions to the release tabs under the bottom edge of the housing.
4. Route the wires through the opening in the new thermostat base plate, and hold the base against the wall. Try to line up the screw holes from the prior thermostat, and install the mounting screws.
5. If the previous holes cannot be used, hold the thermostat base against the wall so that it appears straight and level (position the base for best appearance) and mark for the new screw holes. Attach the base to the wall using the screws provided (use the supplied plastic anchors if needed when mounting to a soft material such as drywall).

WIRING INFORMATION:

CONNECTING THE WIRES:

When attaching the wires to the thermostat, please ensure that the bare wire ends are held ALL the way into the terminal block while the screw is being tightened.

WIRING BASE PLATE NOTICE:

This thermostat model is part of a family of similar models that have the same general visual appearance. Even though this base plate may look the same as base plates from other models, the wiring connections may have different terminal letters for different purposes. Please do not interchange the back plates and/or thermostat front halves of other similar looking models. Doing so may cause undesired heating and/or cooling operation to occur.

WIRING DIAGRAM NOTES:

(Important, please read all notes before connecting wires)

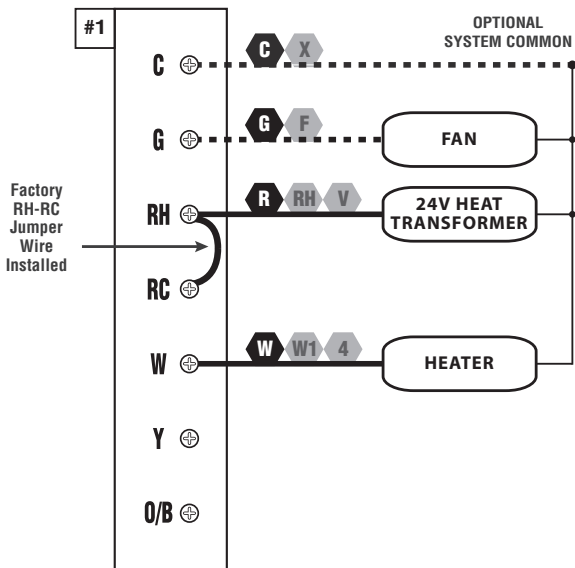
- If the information provided in the following wiring diagrams does not clearly represent or match your system, please refer to the “TECHNICAL ASSISTANCE” section of this manual, and contact us **before** removing any of your existing thermostat wiring.
- All of the dashed wires shown in the wiring diagrams are either optional, or their usage depends upon your specific system type or brand. For example: Diagram #1 shows the fan wire as optional. If your system does not have a fan, than this terminal will not be used.
- Terminal letters shown in black represent typical wiring applications. Depending upon the brand of your specific system or thermostat, your terminal letters may not match exactly. Terminal letters shown in gray represent other possible wiring designations that you might see on your existing thermostat terminals.
- The optional “C” terminal is used for powering the thermostat by the 24-volt system, using the System Common wire. This can be used alone, or in addition to installing batteries as a backup. NOTE: connecting the System Common wire to the thermostat is not necessary for heating and cooling to function properly.
- If your old thermostat has both a “Y” and “C” wire both present, then “C” is most likely a System Common wire.
- If your old thermostat has both an “O” and a “B” wire present, then “B” is likely a System Common wire and may be connected to the “C” terminal. Connecting a System Common wire to this thermostat’s “B” terminal may damage the thermostat, and also your heating and cooling system.
- If replacing an old thermostat that has a mechanical clock, there may be **two** wires labeled as “C” for the clock power. Tape off these wires and do not connect them to the “C” terminal of this thermostat.

WIRING DIAGRAMS:

DIAGRAM	SYSTEM TYPE / DESCRIPTION	PAGE #
#1	CONVENTIONAL: HEATING ONLY SINGLE-STAGE 2, 3, or 4 WIRES	10
#2	CONVENTIONAL: COOLING ONLY SINGLE-STAGE 3 or 4 WIRES	11
#3	CONVENTIONAL: HEATING AND COOLING SINGLE-STAGE 4 or 5 WIRES	12
#4	CONVENTIONAL: HEATING AND COOLING TWO-TRANSFORMERS, SINGLE-STAGE 5 or 6 WIRES	13
#5	HEAT PUMP: HEATING AND COOLING NO AUXILIARY / EMERG HEAT, SINGLE-STAGE 4 or 5 WIRES	14

2 / 3 / 4 WIRES

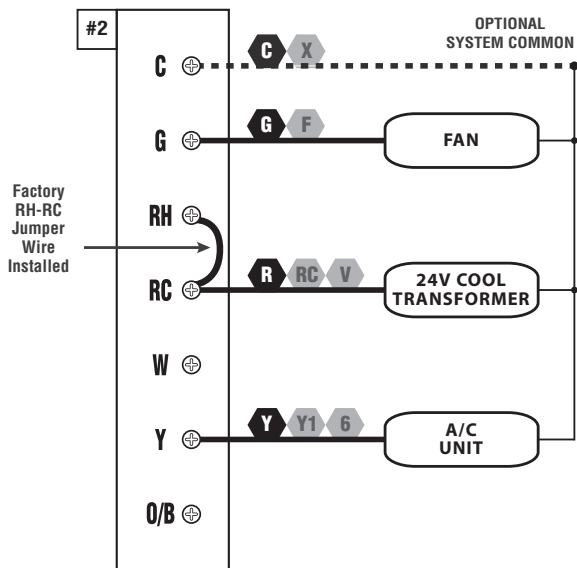
CONVENTIONAL, NON HEAT PUMP 1-STAGE, HEAT ONLY (INCLUDING MILLIVOLT)



**NOTE: THE BLACK TERMINAL LETTERS ARE TYPICAL,
GRAY TERMINAL LETTERS ARE BRAND SPECIFIC**

3 / 4 WIRES

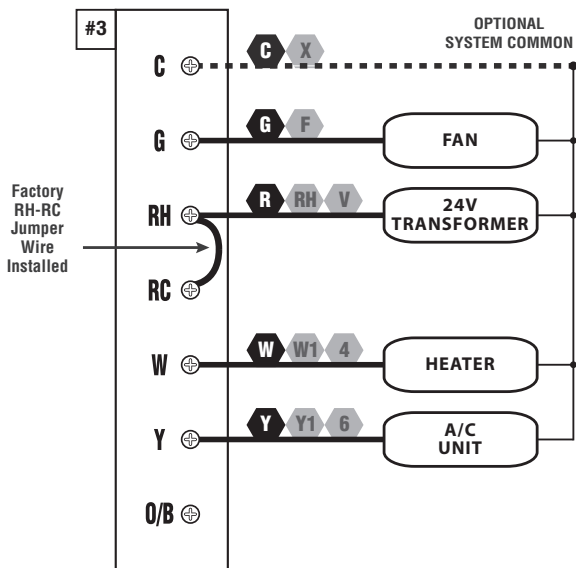
CONVENTIONAL, NON HEAT PUMP 1-STAGE, COOL ONLY



**NOTE: THE BLACK TERMINAL LETTERS ARE TYPICAL,
GRAY TERMINAL LETTERS ARE BRAND SPECIFIC**

4 / 5 WIRES

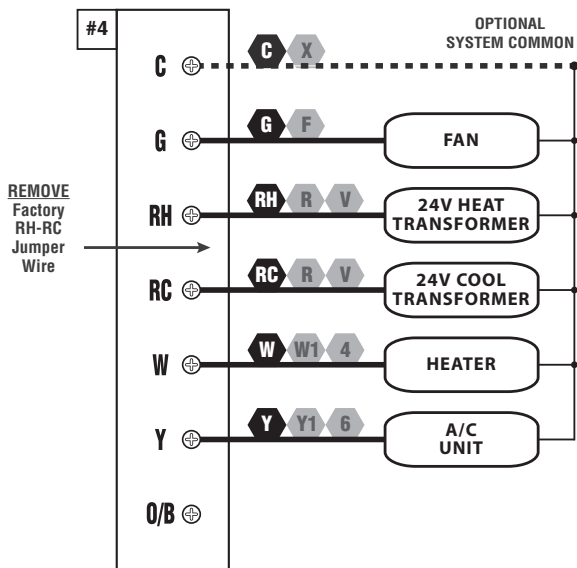
CONVENTIONAL, NON HEAT PUMP 1-STAGE HEAT AND 1-STAGE COOL



**NOTE: THE BLACK TERMINAL LETTERS ARE TYPICAL,
GRAY TERMINAL LETTERS ARE BRAND SPECIFIC**

5 / 6 WIRES

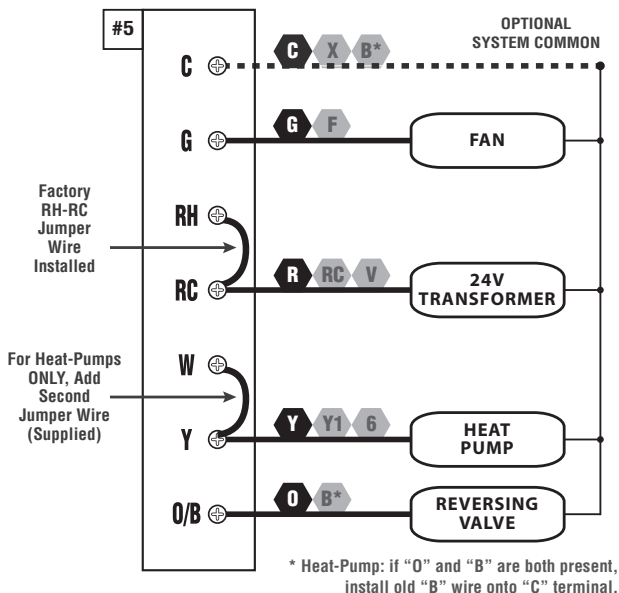
CONVENTIONAL, NON HEAT PUMP 1-HEAT / 1-COOL, WITH TWO-TRANSFORMERS



NOTE: THE BLACK TERMINAL LETTERS ARE TYPICAL,
GRAY TERMINAL LETTERS ARE BRAND SPECIFIC

4 / 5 WIRES

HEAT PUMP SYSTEMS 1-HEAT / 1-COOL, WITH NO AUXILIARY / EMERG. HEAT



**NOTE: THE BLACK TERMINAL LETTERS ARE TYPICAL,
GRAY TERMINAL LETTERS ARE BRAND SPECIFIC**

COMPLETE THE INSTALL:

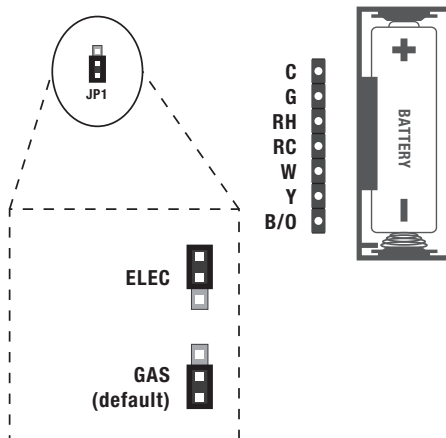
INSTALL BATTERIES INTO THERMOSTAT: Install two brand new Energizer® or DURACELL® “AA” size alkaline (only) batteries, into the thermostat’s battery compartment. Ensure the batteries are installed in the proper direction.

GAS / ELEC CIRCUIT BOARD OPTION (“G” TERMINAL FAN OPERATION): This setting is a plastic shorting cap called a jumper. This jumper must remain installed, and set to either GAS or ELECTRIC for your system to work properly. This setting changes how your system’s blower fan (if applicable) is controlled while the thermostat is in HEAT mode, when the Fan switch in the AUTO position. This setting does not affect the fan operation while in COOL mode.

When set to “GAS”, the blower fan is controlled solely by the heating system itself. Systems that would typically use the “GAS” setting would be: natural gas, propane, or oil furnaces, and boilers.

When set to “ELEC”, the blower fan is controlled directly by the thermostat. This setting is required for heating systems that do not control their own fan, such as HEAT PUMPS, and units that only have an electric-resistive heating element as the heat source.

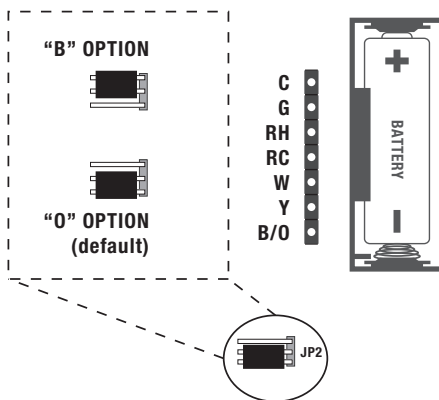
NOTE: If your blower fan does not operate properly after installation, move the Gas / Electric option to the “Electric” setting.



B/O CIRCUIT BOARD OPTION (FOR HEAT PUMP APPLICATIONS): This setting is a plastic shorting cap (called a jumper) which determines the operation of the shared B/O wire terminal connection. This jumper must remain installed for a Heat Pump system to be able to provide heating and cooling as needed, and the majority of heat pumps today use the default “0” setting. The symptoms that will occur if this setting is not correct will be: heating while in cool mode, and cooling while in heat mode.

When this is set to “0” (factory default), the shared B/O terminal will be turned on while in COOL mode, and off in HEAT mode.

When this is set to “B” (which is needed for some Rheem, Ruud, and Bard heat pumps), the shared B/O terminal will be turned on in HEAT mode, and off in COOL mode



FRONT PANEL ITEMS:

HEAT / OFF / COOL, SYSTEM MODE SWITCH: Set this switch to HEAT to control your heating system, and COOL to control your cooling system. The OFF position will disable both the heating and cooling units.

AUTO / ON, FAN MODE SWITCH: When this switch is in AUTO, the blower fan (if present in your system) will automatically cycle on and off by itself while heating or cooling is running. When in the ON position, the blower fan will run constantly with or without a demand for heating or cooling, even when the System Mode switch is in the OFF position.

NOTE: The Fan Mode switch only works if your system provides a wire for the thermostat's "G" wire terminal, to control a blower fan. The Fan Mode switch has no effect in systems that do not have a blower fan (such as a hot water radiator system).

SET BUTTON: This button is used to access the setup options menu, and other additional features.

UP / DOWN BUTTONS: The UP and DOWN buttons are used to control the set temperature, or adjust any other on-screen items. Typically, an item that is flashing can currently be adjusted.

SYSTEM CONFIGURATION AND SETUP OPTIONS:

Setup options for how the thermostat will function, along with choosing your particular system type, are performed using a menu on the display screen.

TO ACCESS THE SETUP MENU: Move the System Mode switch into the OFF position, and then hold down the SET button for approximately 5 seconds until the screen changes. The menu will always start with item #01, and is advanced to each following item by a single press of the SET button. The options for each item are changed using the UP or DOWN buttons.

ITEM #01 (TEMPERATURE SCALE):

- [1] (default) Shows all temperature values in Fahrenheit.
- [2] Shows all temperature values in Celsius.

ITEM #02 (NOT USED):

ITEM #03 (NOT USED):

ITEM #04 (MAXIMUM HEAT SET TEMP LIMIT):

- [1] (default) Limit 90F (32C). The maximum heating set temperature is 90F (32C) degrees with no heat mode temperature restrictions.
- [2] Limit 80F (27C). The maximum heating set temperature is 80F (27C) degrees.
- [3] Limit 70F (21C). The maximum heating set temperature is 70F (21C) degrees.
- [4] Limit 60F (16C). The maximum heating set temperature is 60F (16C) degrees.

ITEM #05 (MINIMUM COOL SET TEMP LIMIT):

- [1] (default) Limit 45F (7C). The minimum cooling set temperature is 45F (7C) degrees with no cool mode temperature restrictions.
- [2] Limit 55F (13C). The maximum cooling set temperature is 55F (13C) degrees.
- [3] Limit 65F (18C). The maximum cooling set temperature is 65F (18C) degrees.
- [4] Limit 75F (24C). The maximum cooling set temperature is 75F (24C) degrees.

ITEM #06 (SYSTEM / EQUIPMENT TYPE):

- [1] (default) Fn=Furnace. This is for the majority of heating systems such as a natural gas furnace or hot water boiler, that are not Heat Pump systems.
- [2] HP=Heat Pump. Use this setting if you have a Heat Pump system (which uses the outdoor unit as the primary heat source). The presence of either an "O" or "B" wire on your previous thermostat would typically indicate you have a heat pump system. This thermostat is NOT compatible with heat pumps which also have an electric heating element as a backup heat source (called Auxiliary / Emergency Heat). **IMPORTANT:** When set to "2" for HP, the circuit board Gas/Electric option must also be set to "ELEC", as described earlier in the "COMPLETE THE INSTALL" section.

ITEM #07 (DELAY TIME):

[1] (default) 5 Minutes. Thermostat waits 5 minutes before turning the system back on after it was last run. The 5 minute setting is fine for most applications, and provides equipment protection by preventing rapid cycling.

[2] Same operation as above, but reduced to 2 minutes between state changes if desired.

ITEM #08 (TEMPERATURE SWING):

[1] (default) This is the tightest control, which is plus/minus 0.25F (0.14C) degrees from the target set temperature.

[2 through 9] These alternate values make the temperature control wider with more variation. Each incremental setting number adds an additional 0.25F (0.14C) degrees onto the initial setting. [9] is the widest control setting, which is plus/minus 2.25F (1.25C) degrees from the set temperature.

ITEM #09 (TEMPERATURE CALIBRATION):

[0 (zero)] (default) At zero, there are no changes made to the base room temperature measurement. The adjustment is from as low as subtracting -5F (-3C) degrees from the room temperature, to as high as adding +5F (+3C) degrees to the room temperature. The internal temperature sensor is accurately calibrated at the factory, and in most cases this setting should not need to be altered.

OPERATING INSTRUCTIONS:

HEATING AND COOLING: Basic operation of your heating or cooling system can be obtained by choosing either HEAT or COOL with the System Mode switch. The temperature can be adjusted using the UP and DOWN buttons.

LCD DISPLAY BACKLIGHT: The display screen is lighted to assist viewing at nighttime, or in locations with low light levels. A press of any button on the front panel will light the display for approximately 10 seconds. Any button presses that occur while the light is on will reset the 10-second timer, causing the screen to remain illuminated for an additional 10 seconds.

STATIC NOTICE: This thermostat is protected against normal static electric discharges, however to minimize the risk of damaging the unit in extremely dry weather, please touch a grounded metal object before touching your thermostat.

ADVANCED FEATURES:

KEYPAD LOCKOUT: You can lock the front panel buttons to prevent unauthorized tampering of your thermostat settings.

TO LOCK THE KEYPAD: Start with the thermostat at rest, and the display backlight NOT illuminated. Press the SET button one time to illuminate the display screen, then press and hold the SET button for at least five seconds until a padlock icon appears in the display screen.

TO UNLOCK THE KEYPAD: Start with the thermostat at rest, and the display backlight NOT illuminated. Press the SET button one time to illuminate the display screen, then press and hold the SET button for at least five seconds until the padlock icon disappears from the display screen.

SOFTWARE RESET: A Software Reset is used to erase ALL heating and cooling temperature programs, and to return all user-adjustable software settings back to their original factory default values. To perform a Software Reset, first ensure that the thermostat's Keypad Lockout is not enabled and then move the System Mode switch to the OFF position. Start with the thermostat at rest, and the display backlight NOT illuminated. Press the SET button one time to illuminate the display screen, then press and hold the SET button for at least five seconds until the backlight goes out and the display screen becomes fully populated with all segments visible.

COMPRESSOR PROTECTION BYPASS: This optional feature permits the installer or service technician to temporarily disable the built in compressor protection delays. This is most useful for diagnosing and testing the heating and cooling systems after installation is complete, and should not be used during normal operation. To activate this feature, first ensure that the thermostat's Keypad Lockout is not enabled and then move the System Mode switch to the OFF position. Start with the thermostat at rest, and the display backlight NOT illuminated. Press any button one time to illuminate the display screen, then press and hold both the UP and DOWN buttons together at the same time for at least five seconds. NOTE: there will no visual confirmation on the display screen when this feature becomes activated, however you should be able to turn the cooling system on and off without any protection delays being imposed. All compressor protection delays (in all modes of operation) will be disabled for 5 minutes. After the 5-minute duration has expired, the thermostat will return to normal operation automatically.

BATTERY REPLACEMENT:

This thermostat is powered by two “AA” Alkaline batteries. The batteries should be replaced AT LEAST once per year to ensure reliable operation (or sooner if the battery icon or “LO BATT” appears in the display screen). The batteries are located on the back of the thermostat’s circuit board. The front portion of the thermostat can be removed from the back half by using the housing release tabs on the bottom edge of the thermostat housing.

When installing new batteries, we recommend using only brand new Energizer® or DURACELL®, “AA” size alkaline batteries. Please observe the polarity markings shown in the battery compartment to ensure proper installation. When finished, line up the front of the thermostat to the base, and firmly press together to securely latch the front and back halves together properly.

TECHNICAL ASSISTANCE:

If you have any problems installing or using this thermostat, please carefully and thoroughly review the instruction manual. If you require assistance, please contact our Technical Assistance department at 856-234-8803 during regular business hours between 8:00AM and 4:30PM Eastern Standard Time, Monday through Friday. You can also receive technical assistance online anytime day or night at www.luxproproducts.com. Our website offers you troubleshooting guides, answers to the most common technical questions, and also permits you to email your questions to our technical support staff at your convenience.

LIMITED WARRANTY:

If this unit fails because of defects in materials or workmanship within three years of the date of original purchase, LUX will, at its option, repair or replace it. This warranty does not cover damage by accident, misuse, or failure to follow installation instructions. Implied warranties are limited in duration to three years from the date of original purchase. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Please return malfunctioning or defective units to the location from which the purchase was made, along with proof of purchase. Please refer to "TECHNICAL ASSISTANCE" before returning thermostat. Purchaser assumes all risks and liability for incidental and consequential damage resulting from installation and use of this unit. Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state. Applicable in the U.S.A. and Canada only.

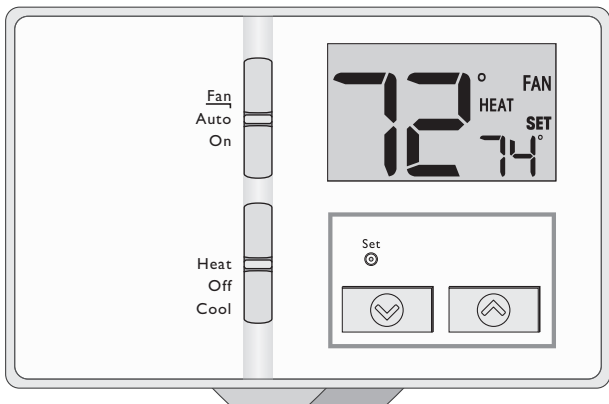
MERCURY WARNING AND RECYCLING NOTICE:



Mercury is a hazardous substance. Many states have laws requiring the proper disposal of mercury thermostats.

If your new thermostat is replacing an older thermostat that might contain mercury, please visit

www.thermostat-recycle.org to learn how and where to dispose of your old thermostat. On the website you can enter your ZIP code to locate the nearest local drop-off point to recycle your old thermostat. If you are not sure whether your old thermostat contains mercury, the website also provides information and guidelines to help you determine whether it does. If you are unable to access the website, you may call the Thermostat Recycling Corporation at 1-888-266-0550 for guidance regarding the proper handling and disposal of your old mercury thermostat.



LUX  PRODUCTS CORPORATION

www.luxproproducts.com
856-234-8803