4. INSTALLATION

4.1 TOOLS REQUIRED

• #1 Phillips screwdriver (small)
• Drill with 3/16-in. (4.8mm) bit
• Wire stripper/cutter

4.2 LOCATION

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

1. Switch electricity to the furnace and air conditioner OFF; then proceed with the following steps.
2. Remove cover from old thermostat. Most are snap-on types and simply pull off. Some have locking screws on the side. These must be loosened.
3. Note the letters printed near the terminals. Attach labels (enclosed) to each wire to identification. Label and remove wires one at a time. Make sure the wires do not fall back inside the wall.
4. Loosen all screws on the old thermostat and remove it from the wall.

4.3 REMOVAL OF OLD UNIT

1. Switch electricity to the furnace and air conditioner OFF; then proceed with the following steps.
2. Remove cover from old thermostat. Most are snap-on types and simply pull off. Some have locking screws on the side. These must be loosened.
3. Note the letters printed near the terminals. Attach labels (enclosed) to each wire to identification. Label and remove wires one at a time. Make sure the wires do not fall back inside the wall.
4. Loosen all screws on the old thermostat and remove it from the wall.

4.4 MOUNTING

5. Strip insulation 3/8 in. (9.5mm) from wire ends and clean off any corrosion.
6. Fill wall opening with wall compound. Be sure not to use too much compound as it may cause the thermostat to be mounted too high.
7. Separate the unit from its base plate by pulling the body outward at its bottom.
8. Reinstall the thermostat by reversing the removal procedure.
14. Configure your thermostat on this page. Refer to SETUP OPTIONS.
15. Install your thermostat on its base. To do this, hang the top of the unit on the tabs on the base, then snap the bottom of the unit into place. Do not use unnecessary force. If the body does not snap into place easily, remove the body, re-hang it from tabs and try again.
16. Turn the power back on to your heating and/or air conditioning system.
17. Verify that the system and its fan are operating properly. When set to a high temperature, the heating system should provide warm air after a short time. Likewise, a cooling system should provide cool air after a short time. Usually sound from the furnace and air conditioning units can be heard while they are running. The rush of moving air should be heard within a short time after either has been started.

5. OPERATING BASICS

5.1 UP/DOWN CHANGE KEYS

• These are the two upper keys, just right of the units display. They are used to adjust set temperatures, and make other setting changes.

5.2 SET DAY AND TIME

To set the correct time after the unit has lost power or after reset:

• Open the door on the front of the thermostat.
• Rotate the dial to SET DAY/TIME. The abbreviation for the day of week will flash.
• Use the UP key to advance to the current day.
• Press NEXT to adjust the time. Time will flash.
• Use the UP/DOWN keys to set the time.
• Pressing NEXT again will toggle from Set Time to Set Day, or vice versa.
• Return the dial to its RUN position.

5.3 TEMPERATURE CONTROL MODES

When a unit has first been powered up with the dial in the RUN position, your thermostat will begin to control your heating and/or air conditioning system according to its default ENERGY STAR® approved program. There is a 5-position slide switch to change temperature control modes. Slide the switch to the mode you would like to use.

5.4 EMERGENCY (EMER)

• Use EMERGENCY position on slide switch to activate your emergency heating. You will see "EMER HEAT" appear in the display. Press temperature UP or DOWN keys until your desired temperature is displayed in the HEAT SET area of the display. "EMER HEAT" will flash if it is activated and running.

5.5 AUTOCHANGE (AUTO)

• Use AUTOCHANGE mode to allow your thermostat to switch between HEAT and COOL modes automatically. Slide the mode switch to AUTO and AUTO CHANGE will be displayed above the set temperature. You can determine whether your thermostat is in HEAT or COOL mode by whether HEAT or COOL is visible in the set temperature area of the units display. Initially HEAT or COOL may not be active until a determination is made that HEAT or COOL is necessary.

• The programmed temperature for a given mode will be used as the set temperature for that mode.

• Pressing the UP/DOWN keys at the same time will force the unit to change modes and make the programmed set temperature the new set temperature.

5.6 HEAT

• Use HEAT mode to control your furnace and warm your home.

• In HEAT mode, HEAT is displayed right of the set temperature.

• HEAT will display solid if there is no load.

• While the 1st stage of heating is active, HEAT will flash.
5.12.3 CLEAN CYCLE™
• LUX’s Clean Cycle™ allows you to program a forced air system to flow air through your system’s filter, cleaning the air in your home, even when heating or cooling is not being utilized. In CLEAN mode the fan maintains the programmed minimum run time; it may run additional time as required to maintain temperature control. The program avoids additional fan time when the minimum run time has been met over the last hour through temperature control. Minimum fan run times are met by running one-third the hourly requirement at twenty-minute intervals. The default minimum fan run time is 15 minutes per hour.

6. PROGRAMMING
6.1 DEFAULT TEMPERATURE PROGRAM
As supplied from the factory, the following ENERGY STAR® approved program will be used for temperature control in RUN MODE. This program and all other software settings may be restored to their default values via a SOFTWARE RESET.

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>HEAT MODE</th>
<th>COOL MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning</td>
<td>6:00 AM 72°F (22°C)</td>
<td>6:00 AM 78°F (26°C)</td>
</tr>
<tr>
<td>Day</td>
<td>8:00 AM 62°F (17°C)</td>
<td>8:00 AM 60°F (16°C)</td>
</tr>
<tr>
<td>Evenning</td>
<td>6:00 PM 70°F (21°C)</td>
<td>6:00 PM 76°F (24°C)</td>
</tr>
<tr>
<td>Night</td>
<td>10:00 PM 62°F (17°C)</td>
<td>10:00 PM 64°F (18°C)</td>
</tr>
</tbody>
</table>

6.2 EDITING HEAT OR COOL PROGRAMS
You can change any preset times and/or temperatures to suit your schedule for each day of the week (7 Day Programming). The four periods each day are named Morning (MORN), Day, Evening (EVE), and Night (NITE).
to accept the displayed start time and advance to the HEAT SET TEMPERATURE, it will flash to show that it may be edited.

- The HEAT SET TEMPERATURE will be displayed on the right side of the display with the HEAT indicator visible.
- Edit the HEAT SET TEMPERATURE, then press NEXT to accept and advance to the COOL SET TEMPERATURE, it will flash to show that it may be edited.
- There is a minimum value that be maintained between the HEAT SET TEMPERATURE and COOL SET TEMPERATURE. That value is called the Dead band. Its default is 3°F. It is programmable and may be changed. See ADVANCED FEATURES. If you move the heat set temperature too close to the cool set temperature, the cool set temperature will move away from the heat set temperature to maintain the Dead Band. Conversely, the heat set temperature will move if you adjust the cool set temperature too close.
- Edit the COOL SET TEMPERATURE, then press NEXT to accept and advance to the next period.
- When you have changed the Cool set temperature to your desired temperature, press NEXT to advance to the next period. Its start time will be flashing indicating that it is under edit.
- When all the periods for a day have been set, the start time for the next weekday Morning period will be displayed to begin editing the settings for that day.
- Complete programming for all weekdays and rotate the dial back to RUN to accept all current values and end the programming session.

### 6.3 CLEAN CYCLE™ (IAQ FAN PROGRAMMING)

Clean Cycle™ programming is similar to temperature programming. It has four consecutive periods, which are independent of the four temperature periods. The default setting for your systems fans CLEAN CYCLE™ program requires it to run at least 15 minutes per hour. Default Program periods are:

<table>
<thead>
<tr>
<th>Period</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORN</td>
<td>6:00 AM (6:00)</td>
</tr>
<tr>
<td>DAY</td>
<td>6:00 AM (8:00)</td>
</tr>
<tr>
<td>EVE</td>
<td>6:00 PM (18:00)</td>
</tr>
<tr>
<td>NIGHT</td>
<td>10:00 PM (22:00)</td>
</tr>
</tbody>
</table>

To edit the CLEAN CYCLE™ program:

- Move Fan switch to CLEAN.
- Rotate the dial to AIR FILTER.
- Press HOLD for 2 seconds.
- PROGRAM, FAN, START AT, MO (day) and MORN (period) will all be visible. Current start time will flash in time area.

Program is performed in the following order.

1. Mo Mom Start Time
2. Mo Mom Minimum ON Time
3. Mo Day Start Time
4. Mo Day Minimum ON Time
5. . . . and so on until Sun Night is fully programmed at which point pressing NEXT again will begin the list at Mo Mom Start Time.

- Press UP/DOWN button to change the time at rate of 60 minutes/second.
- Press NEXT to accept the start time, and advance to set minimum fan on time per hour. Current minimum fan run time will flash with MIN/HR.
- Press UP/DOWN to alter the minimum ON Time setting by 3 minutes. Time can be adjusted from 0 to 60 minutes in increments of 3 minutes. Set 0 MIN/HR to allow AUTO control for particular periods while CLEAN is used in others. Set the fan duration to 60 MIN/HR to run the fan continuously for this period.
- Press NEXT to advance to the next period.
- After the four program periods of day have been programmed, pressing NEXT will advance to the following day’s MORN period.
- One period ends at the start time of the next period. The end of one period may not be any closer to the beginning of the next period than one 15-minute increment. Moving a start time too close to the next start time results in the latter time being pushed ahead too.
- Rotate the dial away from the SET FAN PROGRAMS/AIR FILTER position to exit fan programming.

### 6.4 COPY

- Pressing COPY will copy the previous day’s temperature or fan program into the current day and advance the thermostat to the beginning of next day.

#### 6.4.1 Copy Cycle

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>FAN</th>
<th>START AT</th>
<th>(day)</th>
<th>MO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Mo Morn Start Time</td>
<td>2 Mo Mom Minimum ON Time</td>
<td>3 Mo Day Start Time</td>
<td>4 Mo Day Minimum ON Time</td>
<td>. . . and so on until Sun Night</td>
</tr>
</tbody>
</table>

To edit the CLEAN CYCLE™ program:

- Move Fan switch to CLEAN.
- Rotate the dial to AIR FILTER.
- Press HOLD for 2 seconds.
- PROGRAM, FAN, START AT, MO (day) and MORN (period) will all be visible. Current start time will flash in time area.

Program is performed in the following order.

1. Mo Mom Start Time
2. Mo Mom Minimum ON Time
3. Mo Day Start Time
4. Mo Day Minimum ON Time
5. . . . and so on until Sun Night is fully programmed at which point pressing NEXT again will begin the list at Mo Mom Start Time.

- Press UP/DOWN button to change the time at rate of 60 minutes/second.
- Press NEXT to accept the start time, and advance to set minimum fan on time per hour. Current minimum fan run time will flash with MIN/HR.
- Press UP/DOWN to alter the minimum ON Time setting by 3 minutes. Time can be adjusted from 0 to 60 minutes in increments of 3 minutes. Set 0 MIN/HR to allow AUTO control for particular periods while CLEAN is used in others. Set the fan duration to 60 MIN/HR to run the fan continuously for this period.
- Press NEXT to advance to the next period.
- After the four program periods of day have been programmed, pressing NEXT will advance to the following day’s MORN period.
- One period ends at the start time of the next period. The end of one period may not be any closer to the beginning of the next period than one 15-minute increment. Moving a start time too close to the next start time results in the latter time being pushed ahead too.
- Rotate the dial away from the SET FAN PROGRAMS/AIR FILTER position to exit fan programming.

### 7. ADVANCED FEATURES

#### 7.1 KEYBOARD LOCK

- To prevent tampering Press NEXT, NEXT, HOLD. This sequence of keys will lock and unlock all settings and programs. When locked, a padlock icon will be visible above the time / temperature area of the display.

#### 7.2 FILTER MONITOR

- Your thermostat will warn you that your HVAC system’s air filter should be changed by displaying FILTER in the time temperature display area, after the system’s fan has run the number of hours specified by this limit.

#### 7.2.1 FILTER USAGE

To view the number of hours the thermostat has activated the fan since the last timer reset:

- Rotate the dial to the AIR FILTER position. The current filter usage will be shown with FILTER or AIR FILTER.

To reset the timer to 0, press UP once. Pressing UP or DOWN again will toggle between 0 and the current value. The value in display when you exit this mode will be the value retained in memory. Leave the value at 0 to reset the timer.

- To exit the AIR FILTER mode, rotate the dial to another position.

#### 7.2.2 FILTER LIMIT

This general rule will provide you with a good estimate of your filter’s life in hours. Assume that the fan will run at 1/3 duty cycle or 8 hours per day. Common 90-day filters are then good for 90/24/3=720 hours of use. This is the default limit value. Setting the filter counter limit to 0000 will disable the change filter indicator. Valid entries are from 0 to 2000 hours.

To set the number of hours of filter use before replacement is indicated:

- Rotate the dial to the AIR FILTER position. The current filter usage will be shown with HRS FILTER.
- Hold NEXT for 2 seconds. The Filter limit will be displayed.
- Refer to your Air Filter package to determine your filter’s recommended life. If given in days, multiply by 8 to find the recommended setting in hours of filter usage.
7.3 ENERGY USAGE
Your thermostat records the total number of hours the thermostat has activated heating and cooling with six separate timers. They measure:
- Today’s cumulative heating time.
- Today’s cumulative cooling time.
- Total cumulative heating time.
- Total cumulative cooling time.
- Yesterday’s cumulative heating time.
- Yesterday’s cumulative cooling time.

To view HEAT and COOL energy usage:
- Slide the mode switch to HEAT or COOL.
- Rotate the dial to the ENERGY USAGE position, to review today’s usage. HRS USAGE, Mode and Current Day are all shown along with the usage value.
- Press NEXT to view yesterday’s usage.
- Press again to review Total usage. The Total timer may be changed to zero by pressing UP or DOWN while Total time is displayed. To restore count, press UP or DOWN again.
- To finish review and/or reset of this mode’s energy monitor, rotate the dial to another mode. The current values will be the values retained in memory. Leave the value at 0 to reset the cumulative timer.

7.4 CALIBRATION OFFSET
Your thermostat is accurately calibrated at the factory to within ±1°F. An offset value up to ±5°F may be added to the temperature value that the thermostat measures. This may allow you to match this thermostat to another. To change this offset from its default value of 0:
- Open the door on the front of the thermostat.
- Rotate the dial to SET DAY/TIME.
- Simultaneously press NEXT and HOLD. The Temperature Offset value will flash.

7.5 RESET
Your thermostat has two RESET buttons. The Software RESET in on the front of the thermostat behind the door. It is labeled RESET. HARDWARE RESET is on the rear of the circuit board.

7.5.1 HARDWARE RESET
Use this feature to make all settings and programs their default values. The Software RESET button turns Heat, Air and Fan off, resets the unit’s clock, and reads the Setup Option jumper positions, before initiating normal operation.

7.5.2 SOFTWARE RESET
Use this feature to make all settings and programs their default values. The Software RESET button turns Heat, Air and Fan off, resets the unit’s clock, and reads the Setup Option jumper positions. It then makes all settings and programs their default values before initiating normal operation.

7.6 TEMPERATURE VARIATION / SWING
Your thermostat works by turning your heating or cooling system on and off whenever the room temperature varies a certain number of degrees from the set-point temperature. This variation is the “swing”. Your system should cycle on about 3 to 6 times per hour. A smaller swing number increases the number of cycles, so room temperature is more constant. A larger swing number decreases the number of cycles, saving energy in most cases.

To change this value:
- Rotate the SPEED DIAL to ENERGY USAGE.
- Press NEXT and COPY simultaneously. The Temperature section of the display shows SET TEMP SWING and 2 denoting that you are setting SWING 2. The Time section flashes the current setting.
- Select one of the 9 values from 025 to 225 with the UP/DOWN buttons.
- Return the SPEED DIAL to RUN.

7.7 DEAD BAND
When using Auto-Changeover, dead band provides a disallowed temperature range between the maximum heat set temperature and minimum cool set temperature. Dead Band may be set from 1 to 6 degrees. For example, with auto-changeover active, dead band set to 3°F and heat set to 70°F, the minimum allowed cool set temperature will be 73°F. If the cool set temperature is lowered, then the heat set temperature will be lowered by the same amount maintaining the 3°F Dead band.

To change this setting:
- Set SPEED DIAL 2 to RUN.
- Set Temperature MODE to AUTO.
- Press NEXT and COPY simultaneously to 2 seconds. The display shows SET DEAD BAND, while the Time/Temperature section flashes the current setting.
- Use UP/DOWN keys to adjust the DEAD BAND in 1-degree increments.
- Press and release NEXT to return to RUN. Or, after 30 seconds the unit will automatically revert to RUN mode.

8. SET UP OPTIONS
- Set drawing on page 16. There are five jumpers on the circuit board. Each controls a setting depending on its position. Jumpers are located on the rear of the thermostat’s circuit
9. BATTERY INSTALLATION
1. Remove fresh batteries from their carton.
2. Remove body of thermostat from the wall as described in installation.
3. Remove the used batteries if present and replace them within 90 seconds to avoid having to reset the day and time.
4. Install two new “AA” size Energizer® or Duracell® alkaline batteries. Observe the polarity marking shown in the battery compartment.
5. Re-hang it on its base plate as described in installation.

9.1 BATTERY INSTALLATION

WARNING: Replace your thermostat’s batteries with new Energizer® or Duracell® Alkaline batteries at least once a year or when the battery symbol appears in the display. Use of high quality alkaline batteries is absolutely required for your thermostat to operate properly.

10. TECHNICAL ASSISTANCE
If you have any problems installing or using this thermostat, please reread the instructions carefully. Answers to many questions can be found in our online technical support at www.luxproproducts.com. If you feel you require assistance, please call our offices between 8:00 a.m. and 4:30 p.m. Eastern Standard Time, Monday through Friday. Our number is (856) 234-8803.

11. WARRANTY
Limited Warranty: If this unit fails because of defects in materials or workmanship within one year of 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 instruction's. Implied warranties are limited in duration to one year from 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 wholesale from which 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. only.
WIRING DIAGRAM NOTES

1. Dashed wires are optional.
2. If an "E" wire was connected to your old thermostat, it should be re-connected to the "E" terminal on the new thermostat, and the optional jumper between "W" and "E" should not be used. Install this optional jumper if you would like to use auxiliary heat as an emergency heat system.
3. Optional common wire to terminal "C" allows system power to power thermostat instead of batteries.
4. Use "B" or "O" wire but not both. Refer to equipment manufacturer's instructions to determine which one to use.
5. If a "Y" and "C" wire are both present in your system, then "C" is the common wire.
6. Warning: If a "B" wire in your system is a common wire and you connect it to the "B" terminal instead of "C", this may cause damage to your system.
7. Use terminal "Y2" only if you have a second compressor stage.
14. SOFTWARE RESET TABLE

Before hitting the software reset button, record your thermostat’s programs and settings in the table provided below.

<table>
<thead>
<tr>
<th>DAY</th>
<th>PERIOD</th>
<th>HEAT TIME</th>
<th>TEMP</th>
<th>COOL TIME</th>
<th>TEMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>MON</td>
<td>MORN</td>
<td>2min</td>
<td>24hr</td>
<td>CS/R On</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td>DAY</td>
<td></td>
<td></td>
<td>FS/R Off</td>
<td>400</td>
</tr>
<tr>
<td></td>
<td>EVE</td>
<td></td>
<td></td>
<td>Overrun</td>
<td>5min</td>
</tr>
<tr>
<td></td>
<td>NIGHT</td>
<td></td>
<td></td>
<td>Enable</td>
<td>24hr</td>
</tr>
<tr>
<td>TUES</td>
<td>MORN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EVE</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>WED</td>
<td>MORN</td>
<td></td>
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<td></td>
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<td></td>
<td>DAY</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>EVE</td>
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<td></td>
</tr>
<tr>
<td>THURS</td>
<td>MORN</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EVE</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>NIGHT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRI</td>
<td>MORN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DAY</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>EVE</td>
<td></td>
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<tr>
<td></td>
<td>NIGHT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAT</td>
<td>MORN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EVE</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>NIGHT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUN</td>
<td>MORN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DAY</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>EVE</td>
<td></td>
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<tr>
<td></td>
<td>NIGHT</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

15. JUMPER AND SWITCH POSITIONS

Rear of Thermostat with Cover Removed

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 Gillette Company, Inc.