



LUX PSP511A Series Programmable 5-2 Thermostat Instruction Manual

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LUX

LUX PSP511A Series Programmable 5-2 Thermostat



Product Information

The PSP511A/PSP511LA series is a thermostat manufactured by Lux Products Corporation. It is a complete and easy-to-read thermostat that comes with installation and operating instructions. The thermostat is designed to be installed easily and offers various features for convenient usage.

The PSP511A/PSP511LA series is compatible with most single stage 24 volt gas, oil, or electric heating and air conditioning systems, single stage heat pumps, or gas millivolt heating systems. However, it cannot be used with 3 wire zone valves, 120 volt heating systems, or multi-stage heat pumps. For controlling those systems, users are advised to consult their dealer for other Lux thermostats.

Some key features of the PSP511A/PSP511LA series include:

- Backlit display (PSP511LA only)
- Easy programming
- Programmable weekday and weekend settings
- Temperature hold and temporary temperature override
- Fan switch with auto and on options
- Heat, off, and cool mode switch
- Adjustable temperature differential / cycle rate
- System or battery-powered
- Illuminated display (PSP511LA only)

Additionally, the thermostat is protected against normal static electric discharges and has a cautionary note regarding extremely dry weather to minimize the risk of damaging the unit. The installation should be carried out carefully, following local codes and ordinances.

Product Usage Instructions

Before beginning the installation process, it is essential to read all the instructions carefully and save them for future reference. The existing thermostat's wiring must be labeled with their terminal designations before

removing any wiring. The color of the wires should be ignored as they may not comply with any standard.

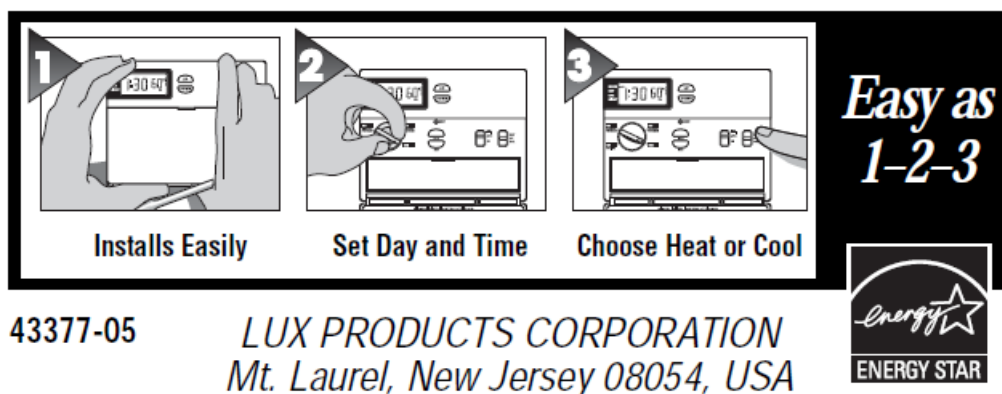
Here are the step-by-step instructions for installing and using the PSP511A/PSP511LA series thermostat:

Installation

1. Turn off electricity to the appliance before installing or servicing the thermostat or any part of the system. Do not turn electricity back on until the work is completed.
2. Do not short (jumper) across electric terminals on the furnace or air conditioner to test the system as it may damage the thermostat and void the warranty.
3. All wiring must conform to local codes and ordinances. The thermostat should be limited to a maximum of 1.5 amps; higher current may cause damage to the thermostat.
4. **Use the following tools for installation:**
 - #1 Phillips screwdriver (small)
 - Drill with 3/16-in. (4.8mm) bit
 - Wire stripper/cutter
5. Mount the new thermostat in place of the old one on replacement installations, unless specific conditions suggest otherwise.
6. On new installations, follow these guidelines for thermostat location:
 - Locate the thermostat on an inside wall, about 5 ft. (1.5m) above the floor, and in a room that is used often.
 - Avoid installing it in areas with unusual heating conditions such as direct sunlight, near lamps, televisions, radiators, registers, fireplaces, or hot water pipes in a wall.
 - Avoid locations with unusual cooling conditions such as on a wall separating an unheated room or in a draft from a stairwell, door, or window.
 - Do not place it in a damp area to prevent corrosion that may shorten thermostat life.

By following these instructions, users can successfully install and utilize the PSP511A/PSP511LA series thermostat for their heating and air conditioning systems.

SMART TEMP® ELECTRONIC THERMOSTAT



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.

IMPORTANT!

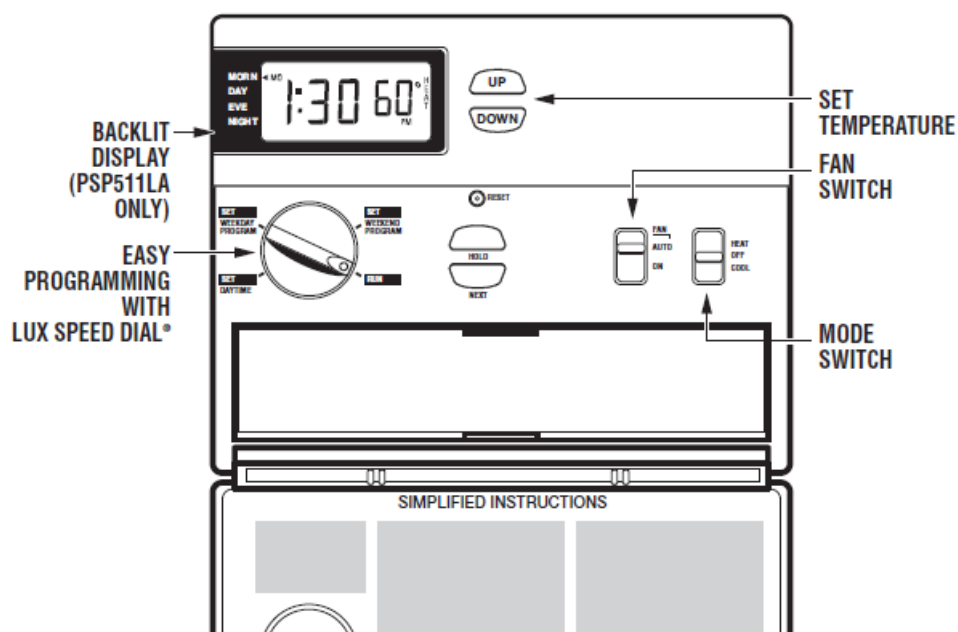
Please read all instructions carefully before beginning installation. Save them for future reference. Before removing any wiring from your existing thermostat, its wires must be labeled with their terminal designations. Ignore the color of the wires since they may not comply with any standard.

Thank you for your confidence in our product. To obtain the best results from your investment, please read these instructions and acquaint yourself with your purchase before installing your new thermostat. Then follow the installation procedures, one step at a time. This will save you time and minimize the chance of damaging the thermostat and the systems it controls. These instructions may contain information beyond that required for your particular installation. Please save for future reference.

COMPATIBILITY

The PSP511A/PSP511LA can be used with most single stage 24 volt gas, oil or electric heating and air conditioning systems, single stage heat pumps, or gas millivolt heating systems. It cannot be used with 3 wire zone valves, 120 volt heating systems, or multi stage heat pumps. Ask your dealer for other LUX thermostats to control those systems.

FEATURES



- Heating and Cooling
- Contractor Grade
- Armchair Programmable
- One Year Warranty
- On Screen Low Battery Indicator
- Default Energy Star® Approved Programs
- Attractive design
- Exclusive LUX Speed Dial®
- 5/2 Programming
- Energy Star Compliant
- 4 Periods Per Day
- Battery Free Memory For All Programs And Settings

- Temporary Temperature Override Temperature Hold
- F/C Temperature Display
- 12/24 Hr Clock Display
- Adjustable Temperature Differential / Cycle Rate
- 5/2 minute selectable minimum Run/Off time provides short cycle and compressor protection
- System or Battery Powered
- Illuminated Display (PSP511LA only)

CAUTION

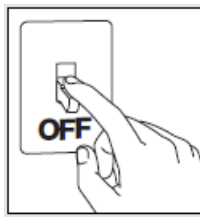
The PSP511A/PSP511LA is protected against normal static electric discharges. To minimize the risk of damaging the unit in extremely dry weather, touch a grounded metal object before touching your thermostat.

INSTALLATION

Please read all instructions carefully before beginning installation.

CAUTION

Turn off electricity to the appliance before installing or servicing thermostat or any part of the system. Do not turn electricity back on until work is completed.



- Do not short (jumper) across electric terminals on furnace or air conditioner to test the system. This may damage the thermostat and void your warranty.
- All wiring must conform to local codes and ordinances.
- The thermostat should be limited to a maximum of 1.5 amps; higher current may cause damage to the thermostat.
- Your thermostat is a precision instrument. Please handle it with care.

TOOLS REQUIRED

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

THERMOSTAT 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.

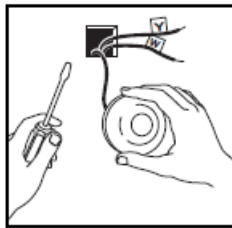
- Locate the thermostat on an inside wall, about 5 ft. (1.5m) above the floor, and in a room that is used often.
- Do not install it where there are unusual heating conditions, such as: in direct sunlight; near a lamp, television, radiator, register, or fireplace; near hot water pipes in a wall; near a stove on the other side of a wall.

- Do not locate in unusual cooling conditions, such as: on a wall separating an unheated room; or in a draft from a stairwell, door, or window.
- Do not locate in a damp area. This can lead to corrosion that may shorten thermostat life.
- Do not locate where air circulation is poor, such as: in a corner or an alcove; or behind an open door.
- Do not install the unit until all construction work and painting has been completed.

CAUTION

- Read instructions carefully before removing any wiring from existing thermostat.
- Wires must be labeled before they are removed.
- Do not allow wires to touch each other or parts on thermostat.
- When removing wires from their terminals, ignore the color of the wires since they may not comply with any standard.

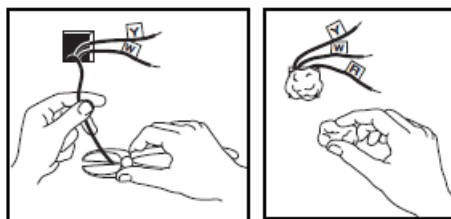
REMOVING THE OLD THERMOSTAT



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 for identification. Remove and label 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.

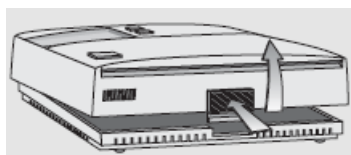
MOUNTING THE PSP511A/PSP511LA

5. Strip insulation leaving 3/8 in. (9.5mm) bare wire ends and clean off any corrosion.
6. Fill wall opening with non-combustible insulation to prevent drafts from affecting the thermostat.



CAUTION

Be careful not to drop the unit or disturb electronic parts. Leave the door closed while the body is being removed from the base.



7. Remove the body from the thermostat's base by pressing the thumb latch at the bottom center of the unit and swinging the body away.

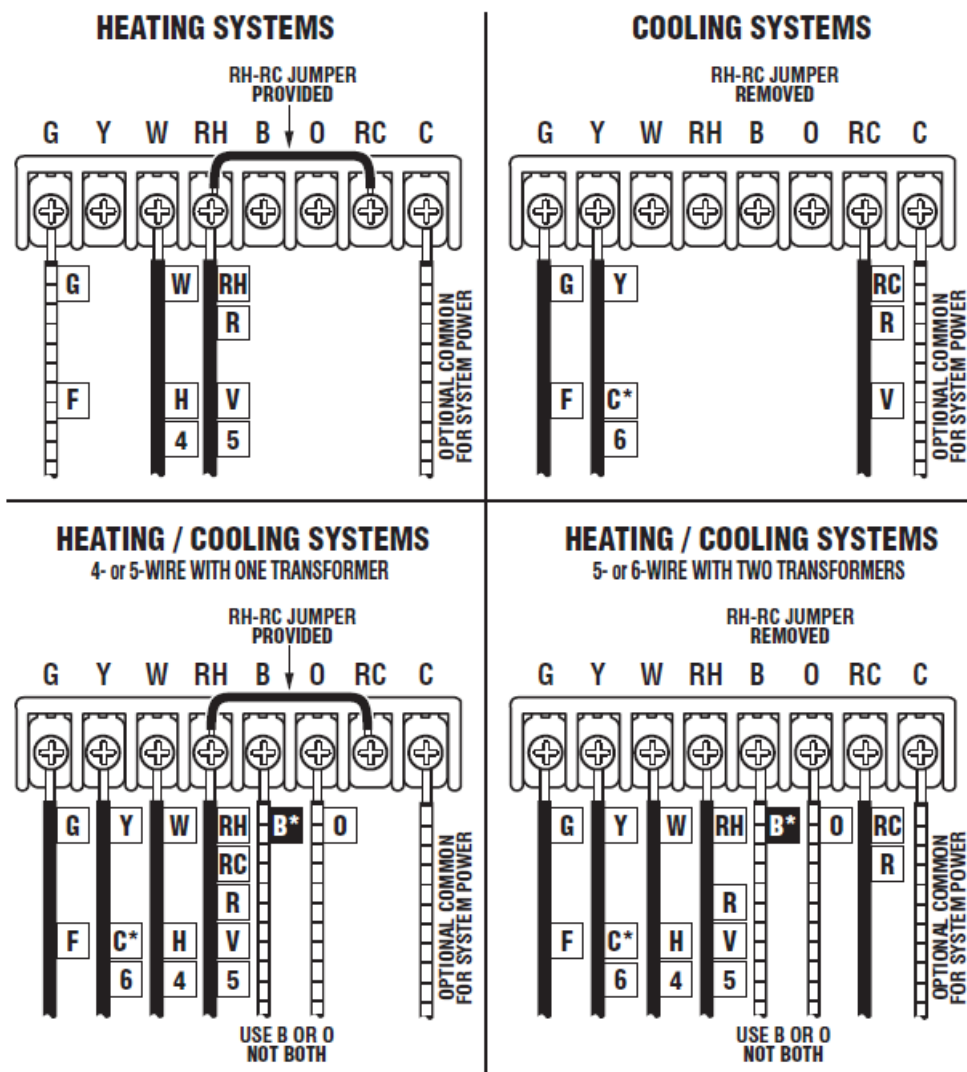
NOTE

If you are mounting the base to soft material like plasterboard or if you are using the old mounting holes, the screws may not hold. Drill a 3/16 in. (4.8mm) hole at each screw, and insert the plastic anchors provided.

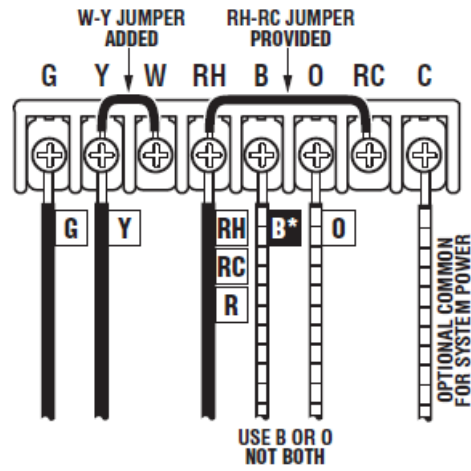
8. Hold the base against the wall. Route the wires through the hole below the terminal block. Position the base for best appearance (to hide any marks from an old thermostat). Attach the base to the wall with the two screws provided.

CONNECTING THE WIRES

1. Loosen wire clamp screws just enough to slide wire under the top black part of the clamp.
2. Using your label, and diagrams below determine appropriate wiring for your system.
3. If you are unsure or need assistance, call the LUX Technical Assistance Dept. (see TECHNICAL ASSISTANCE).
4. Slide proper wire between the brass back and black top clamp.
5. Tighten each screw securely.

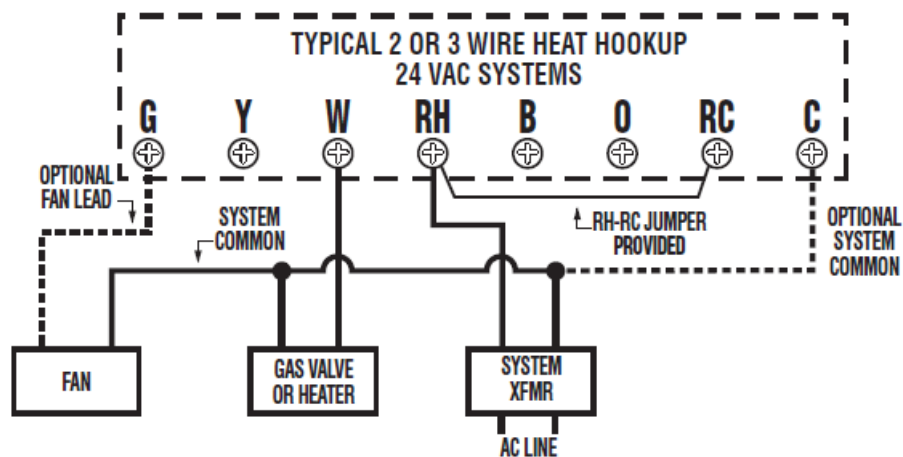


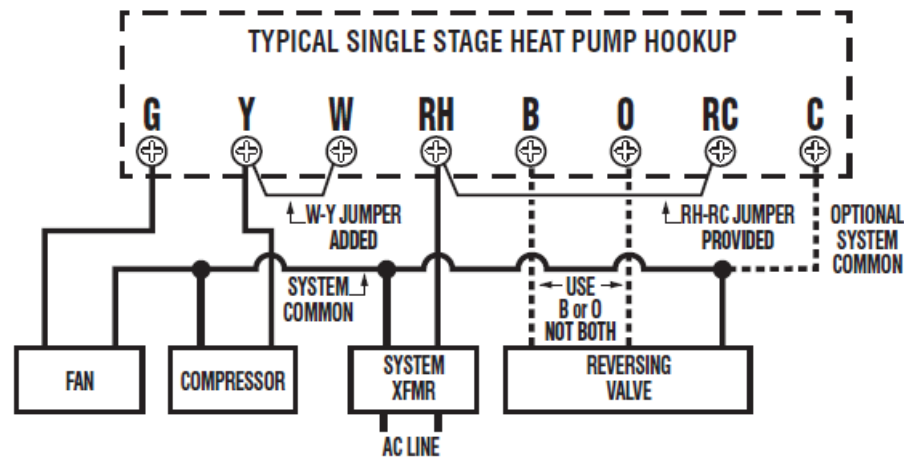
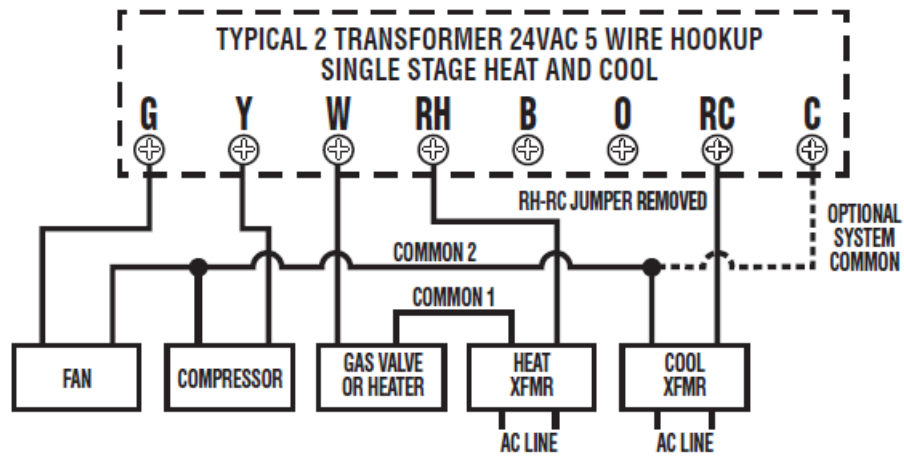
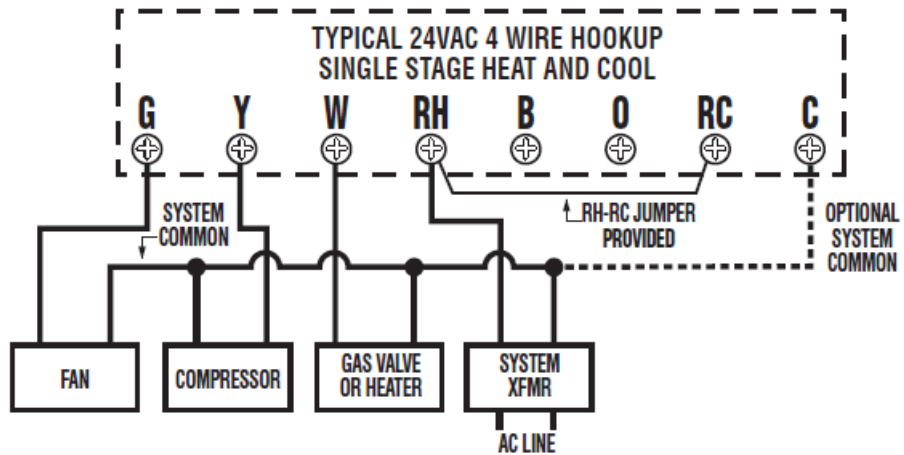
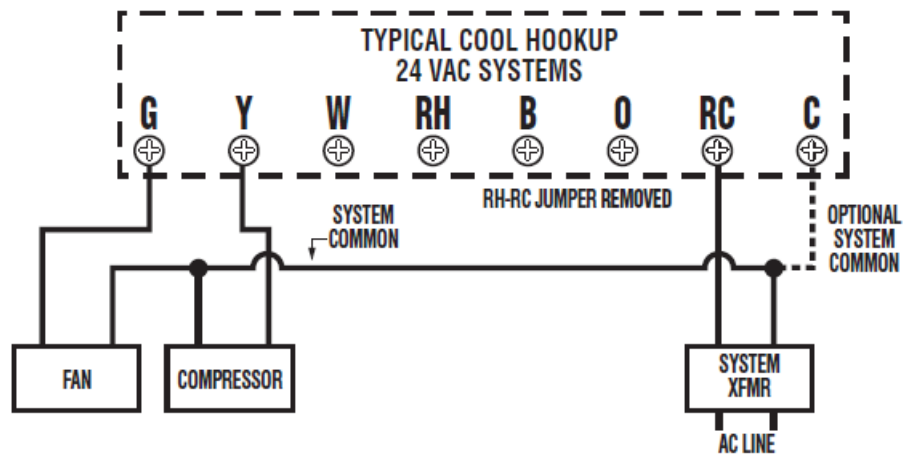
SINGLE STAGE HEAT PUMP WIRING



- Dashed lines are optional.
- Optional common wire allows system to power thermostat.
- If "Y" and "C" are both present, then "C" is a common wire.
- If a "B" wire in your system is a common wire then connecting it to the B terminal may cause damage to your system.
- Use "B" or "O" in heat pump systems. Generally neither are required in a conventional system.

These diagrams are provided for new installations or unreferenced wires.





- Dashed lines are optional.
- Optional common wire allows system to power thermostat.
- If "Y" and "C" are both present, then "C" is a common wire.

- If a “B” wire in your system is a common wire then connecting it to the B terminal may cause damage to your system.
- Use “B” or “O” in heat pump systems. Generally neither are required in a conventional system.

COMPLETING YOUR INSTALLATION

1. See Setup Options to configure jumpers.
2. Install two new Energizer or DURACELL “AA” size alkaline batteries at this time. For instructions, see BATTERIES/MAINTENANCE.

NOTE

Remove sticker from display.

1. Install your PSP511A/PSP511LA on its base. To do this hang the top of the unit by 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 the tabs and try again.
2. Turn the power back on to your heating and/or air conditioning system.
3. 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.
4. Your installation is now complete.

NOTE

If you have an electric system and the blower does not operate after installation, find the electric/gas heat jumper on the back of the body. Move the jumper to ELEC position. No reset required.

OPERATING INSTRUCTIONS

The PSP511A/PSP511LA alternately displays the current time and the room temperature, and the day of the week. The current program period, MORN, DAY, EVE or NITE is indicated by an arrow at the left edge of the screen. Set temperatures are indicated in the right side of the display. With batteries installed, you can make program or setting changes with the thermostat body on the wall, or conveniently removed from its base plate.

• TEMPERATURE CONTROL MODES:

The Mode switch has three positions HEAT, OFF, and COOL. In the winter, set the system switch to HEAT to control your heating system. In the summer, set the switch to COOL to control your air conditioner. In spring and fall or when the windows are open, you can set the switch OFF.

• UP/DOWN/CHANGE KEYS:

UP/DOWN keys are just right of the unit's display. They are used to adjust set temperatures and change other settings.

• CHANGING TEMPERATURE AND OTHER SETTINGS:

If there are many choices for a value, usually that setting will automatically advance by holding the Up or Down key. Some settings though, must be changed one press at a time.

• DISPLAY ILLUMINATION:

Press any key to illuminate (PSP511LA only) the display. Pressing any key will keep the display illuminated

until no button has been pressed for approximately 20 seconds.

- **FAN MODES:**

The fan switch has two positions; AUTO will automatically run your system's fan as required for heating and cooling only. ON runs your system's fan continuously.

NOTE

The FAN switch works only if your system provides a wire for the PSP511A/PSP511LA's "G" terminal.

SETTING THE TIME AND DAY:

Open the door on the front of the thermostat. Rotate the dial to the SET DAY/TIME position. You should see the display pictured below with a day of the week flashing.

- Press UP to change day of week.
- Press NEXT to set the time; it will flash.
- Press UP or DOWN to change time of day.



When you are finished setting the day and time, rotate the dial to RUN to return to normal operation or to another position to continue programming.

HARDWARE RESET

This button will read option jumper positions, before the unit begins normal operation. It is located inside on the rear of the unit's circuit board. It is a small square component with a white button at its center. Pressing Hardware Reset will allow the unit to read the new jumper settings without losing your program.

SOFTWARE RESET

Use this front panel RESET to return all software settings and programs to their default values. Option jumpers will be read and operation will correspond to their current positions. To assist in reprogramming, copy your programs into the chart provided before using SOFTWARE RESET.

PROGRAMMING CHART

DAY	PERIOD	HEAT		COOL	
		TIME	TEMP.	TIME	TEMP.
MON. THRU FRI.	MORN				
	DAY				
	EVE				
	NIGHT				
SAT. and SUN.	MORN				
	DAY				
	EVE				
	NIGHT				

PROGRAMMING

The PSP511A/PSP511LA provides two separate programs, one for heating the other for cooling. Each program has separate settings for weekdays and week-ends. Every day a program cycles through four independent periods. You can use the default programs or alter them to suit your schedule.

DEFAULT ENERGY STAR® 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.

PERIOD	HEAT MODE	COOL MODE
Morning	6:00 AM 70°F (21°C)	6:00 AM 78°F (26°C)
Day	8:00 AM 62°F (17°C)	8:00 AM 85°F (29°C)
Evening	6:00 PM 70°F (21°C)	6:00 PM 78°F (26°C)
Night	10:00 PM 62°F (17°C)	10:00 PM 82°F (28°C)

EDITING HEAT OR COOL PROGRAMS

You can review or change any preset times and/or temperatures to suit your schedule for each day of the week. The four periods each day are Morning(MORN), Day,(DAY) Evening(EVE), and Night(NITE).

WEEKDAY PROGRAMMING



1. Select HEAT or COOL with the mode switch.
2. Rotate dial to SET WEEKDAY PROGRAMS.

You will see the display shown here:

3. All 5 weekday abbreviations will be displayed indicating that this program will cycle once each of these days,
4. The HEAT or COOL set temperature will be displayed on the right side of the display. The start time for the displayed period will flash to show that this may be changed.
5. Use the Up and Down keys. One period ends at the start time of the next period. The beginning of that period may not be any closer to the beginning of the next period than one 15 minute increment.
6. Press NEXT to accept the displayed start time and advance to edit the SET TEMPERATURE.
7. Use the UP and Down keys to change the flashing HEAT or COOL set temperature to the temperature you desire.
8. Press NEXT to accept the displayed set temperature and advance to edit the start time for the next period. It will be flashing.
9. Repeat for each of the four periods. When all the periods for the weekday program have been set, the start time for the morning will again be displayed flashing so that it may be edited.
10. Rotate the dial back to RUN to accept all current values and end the weekday programming session.

WEEKEND PROGRAMMING

1. To review or change the weekend program, select HEAT or COOL and rotate the dial to SET WEEKEND PROGRAMS. You will see a display similar to that shown here:
2. Use steps 4 – 10 described in WEEKDAY PROGRAMMING to program Saturday and Sunday.



TEMPERATURE OVERRIDE

OVERRIDE allows you to change the current SET TEMPERATURE in HEAT or COOL until the next program period without changing your temperature control programs.

- Press an arrow key once.
- While the Set Temperature is flashing; press an UP or DOWN key to adjust the set temperature by one degree in the associated direction. Holding the key will automatically advance the setting in the associated direction.
- The OVERRIDE will be canceled at the start of the next program period, and the temperature setting will return to its programmed value.
- An OVERRIDE may be terminated by rotating the dial, switching the mode to OFF, or initiating a HOLD.
- Adjusting the set temperature to its program value will also cancel an OVERRIDE.



TEMPERATURE HOLD

HOLD may be used for manual temperature control. HOLD is the simplest means to set and maintain a fixed temperature. It allows you to set and maintain a temperature Set Point indefinitely in Heat or Cool without concern for programming. To initiate a HOLD:



- Press and release HOLD.
- After the Set Temperature begins to flash, adjust temperature as desired with UP or DOWN keys.
- Temperature setting will not change until the HOLD is cancelled.
- To cancel a HOLD, press and release HOLD again, rotate the dial, or switch mode to OFF.

ADVANCED FEATURES

TEMPERATURE SWING

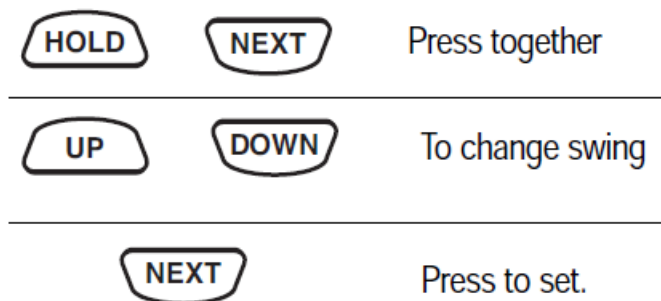
A thermostat works by turning your heating or cooling system on or off whenever the room temperature varies from the set-point temperature. This variation is the “swing.” Your system should cycle on about 3 to 6 times per hour. A smaller swing number increases the number of cycles, so room temperature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

SWING SETTING

1. With the Dial in its RUN position, simultaneously press NEXT & HOLD.
2. Use the UP and DOWN keys to change swing.
3. Choices are 1 through 9. The default is 1.
4. Rotate the dial to the RUN position or press NEXT to finish.



Dial must be in the RUN position



SETUP OPTIONS

• JUMPER SETTINGS

There are three jumpers and one switch. Each controls a setting corresponding to its position.

• 5MIN/2MIN MINIMUM RUN TIME – JP3

The position of J3 sets the minimum length of time that the thermostat must remain with Heat or Cool either on or off before it will automatically switch to the alternate On or Off state. This feature prevents short cycling and provides compressor protection for cooling units. Choices are 2 or 5 minutes.

• TEMPERATURE DISPLAY FORMAT °F/C – JP2

The position of this jumper controls whether temperature is displayed in degrees F° or C°

• TIME DISPLAY FORMAT 12/24 HR CLOCK – JP1

The position of this jumper controls whether time is displayed in 12 hour or 24 hour Military Time format.

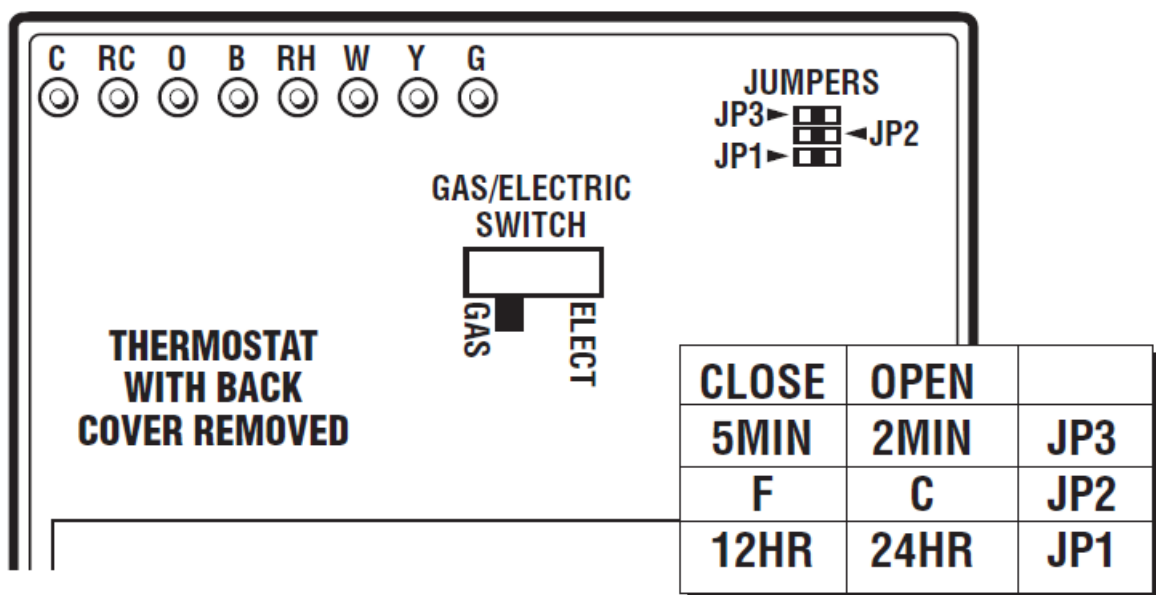
• REPOSITIONING JUMPERS

To change a setting, the jumper must be repositioned and a **HARDWARE RESET** must be performed. Note that as long as you press the Hardware Reset button (inside) and not the Software Reset button (front), you will change settings and not lose your program. These jumpers are located inside the thermostat on the rear of its circuit board. To access them, remove the unit from the wall by pressing up on the thumb latch at the bottom of thermostat and swinging the body out and away.

• **GAS/ELECTRIC SWITCH**

This switch controls whether the thermostat requests the system fan to run when it is in **HEAT** mode with the fan set to **AUTO**. Then with the switch set to **GAS** the fan is controlled by the heating system itself and the terminal will remain inactive. With the gas switch set to **Electric (ELEC)**, the fan is controlled by the thermostat.

The table pictured below is also printed on the circuit board. The closed or shorted position is that which covers both a jumpers pins. To prevent its loss in the open position, a jumper may be placed over one pin only. After jumpers have been changed, press the **HARDWARE RESET** button for the changes to take effect. See **HARDWARE RESET**.



BATTERIES AND MAINTENANCE

WARNING

Use Energizer® or DURACELL® Alkaline Batteries Only.

INSTALLING BATTERIES/ MAINTENANCE

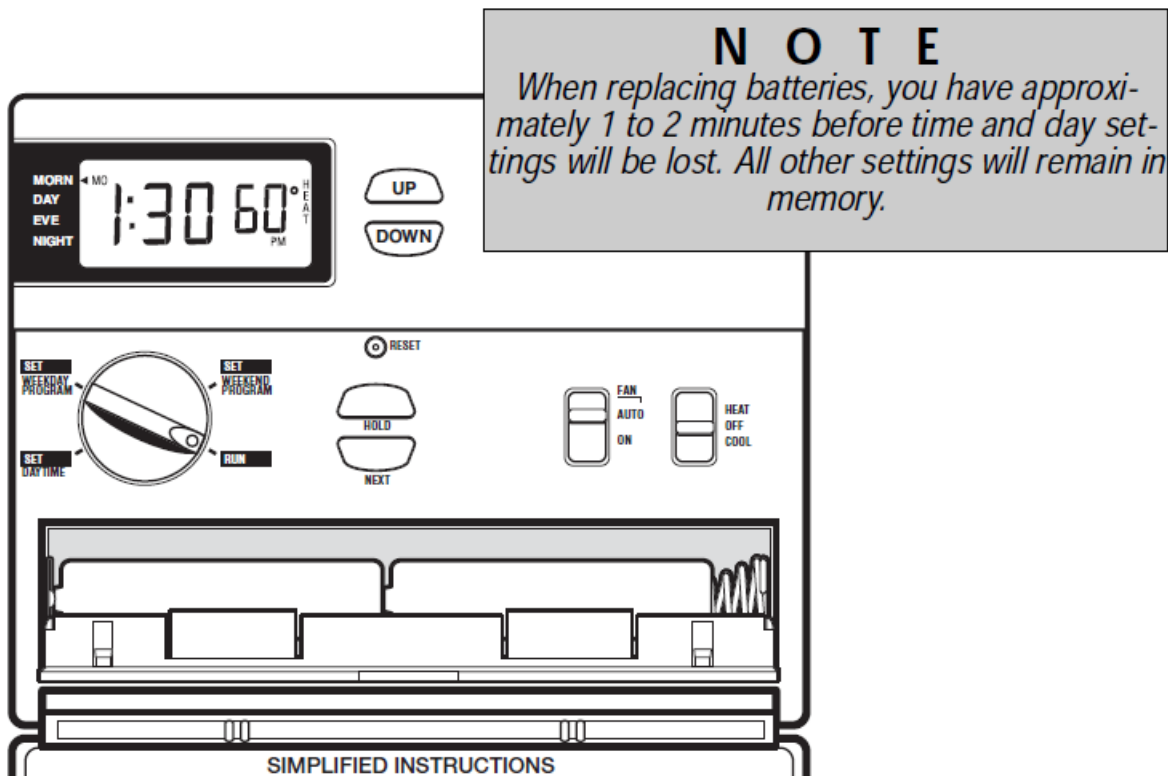
When battery powered, your PSP511A/PSP511LA requires battery replacement at least once a year or when the battery “LO BATT” indicator is visible in the display.

1. Switch electricity to the furnace and air conditioner OFF.
2. To access your units batteries : Open the door.
3. Using the groove at its top dead center, remove the battery holder by rotating it outward from the top.
4. Remove the used batteries from the rear.
5. Install two new Energizer® or DURACELL® “AA” size ALKALINE batteries in the battery compartment.
Observe the polarity marking shown in the compartment.



**REPLACE BATTERIES WHEN INDICATOR
APPEARS**

6. Place the notches at the battery door's bottom into the corresponding tabs inside the battery compartment
7. Rotate the battery holder back into the thermostat body, snapping it into place.
8. Turn the power back on to your heating and/or air conditioning system. If this is the first time you are installing batteries, the thermostat will display "SUN 12:00 AM". Within 90 seconds the thermostat will begin to display the room temperature alternately with the time. To correct the display, see "Setting the TIME and DAY," after you set the programs.



With the batteries installed, this thermostat is "armchair programmable." You can make any program or setting changes with the thermostat body off or on the wall thermostat base.

TECHNICAL ASSISTANCE

If you have any problems installing or using this thermostat, please reread the instructions carefully or visit our online technical support at www.luxproproducts.com. Technical assistance is available through our Technical Service Number. If you require assistance, please call our office between 8:00 a.m. and 4:30 p.m. Eastern Standard Time, Monday through Friday. The number is (856) 234-8803.

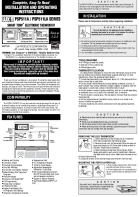
WARRANTY

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 installation instructions. 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 participating retailer from which the purchase was made along with proof of purchase. Please refer to “Technical Assistance” before returning your 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.

Documents / Resources

	<p>LUX PSP511A Series Programmable 5-2 Thermostat [pdf] Instruction Manual PSP511A, PSP511LA, PSP511A Series Programmable 5-2 Thermostat, Programmable 5-2 Thermostat, 5-2 Thermostat, Thermostat</p>
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References

-  [Pro - LUX Products Pro Solutions](#)