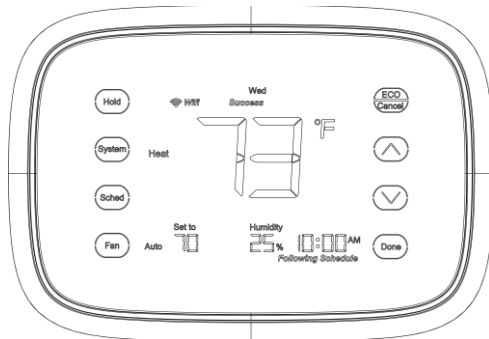


# LAKEPRO-1 WI-FI TOUCHSCREEN PROGRAMMABLE THERMOSTAT





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You can download a copy of this manual at  
<https://vtronix.com/5-residential-thermostats>

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# APPLICATION

The Lakepro-1 Wi-Fi touchscreen programmable thermostat is an easy to use 7-Day programmable thermostat that provides universal system compatibility, precise comfort control and ease of programming.

The Lakepro-1 provides temperature control for gas, oil, electric conventional systems and heat pumps for up to 3 heat stages and 2 cool stages.

Above all, it allows you to remotely monitor and control the heating and cooling system in your home or business — you can stay connected to your comfort system wherever you go.

# FEATURES

- Large, clear display with backlight shows room temperature, set temperature and humidity.
- Menu-driven programming makes for easy setup.
- Capacitance touchscreen interaction.
- Optional connection to the Internet to monitor and control the heating/cooling system remotely.
- Compressor protection.

# SPECIFICATIONS

## **Temperature Setting Range:**

Heating: 40°F to 90°F (4°C to 32°C).

Cooling: 50°F to 99°F (10°C to 37°C).

## **Operating Ambient Temperature:**

32°F to 122°F (0°C to 50°C).

## **Shipping Temperature:**

14°F to 140°F (-10°C to 60°C).

## **Temperature Accuracy :**

±2°F.

## **Operating Relative Humidity (Non-condensing):**

5% to 95%.

## **Humidity Display Range:**

0% to 99%.

## **Humidity Accuracy:**

+/- 10%RH.

## **Clock Accuracy:**

+/- 2 minutes per month.

## **Cool Indication:**

Displays "Cool On" on the screen when Cool is activated.

**Heat Indication:**

Displays "Heat On" on the screen when Heat is activated.

**Auxiliary Heat Indication:**

Displays "Aux On" on the screen when Auxiliary Heat is activated.

**Emergency Heat Indication: (heat pump with backup heat only)**

Displays "Emer" on the screen when Emergency Heat is manually activated.

**Automatic Changeover Indication: (when enabled)**

Displays "Auto" when Automatic Changeover (Heat/Cool) is activated

**System OFF Indication:**

Displays "OFF" when system is turned OFF.



# INSTALLATION

## **When Installing this Product...**

1. Read these instructions carefully. Failure to follow the instructions can damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions to make sure the product is suitable for your application.
3. The installer must be a trained, experienced service technician.
4. After completing the installation, use these instructions to check out the operation of the product.

## **Selecting Location**

Install the thermostat about 5 feet (1.5m), above the floor in an area with good air circulation at average temperature. See Fig.4.

Do not install the thermostat where it can be affected by:

- Drafts or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from the sun or appliances or concealed pipes and chimneys.
- Unheated or uncooled areas such as an outside wall behind the thermostat.

## **Mounting Means:**

Mounts directly on the wall in the living space using mounting screws and anchors provided or on a horizontal 2x4 electrical box.



## Dimensions:

1. Lakepro-1 front and side dimensions: see Fig. 1.
2. Lakepro-1 rear dimensions: see Fig. 2.
3. Lakepro-1 wall plate dimensions: see Fig. 3.

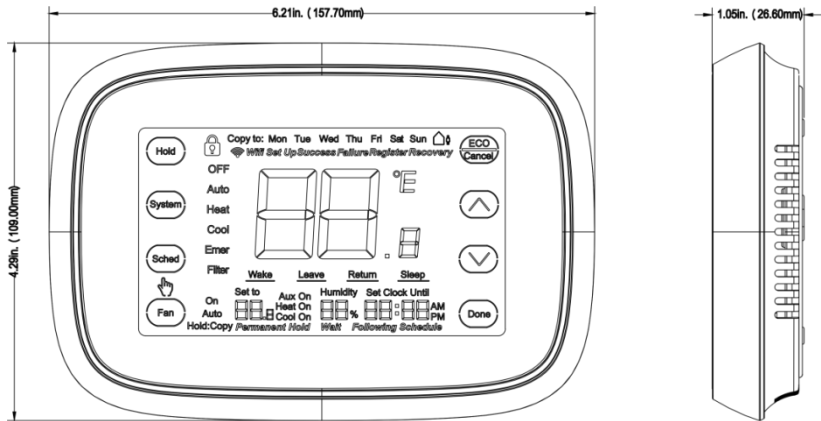


Fig. 1. Lakepro-1 front and side dimensions in inches. (mm).



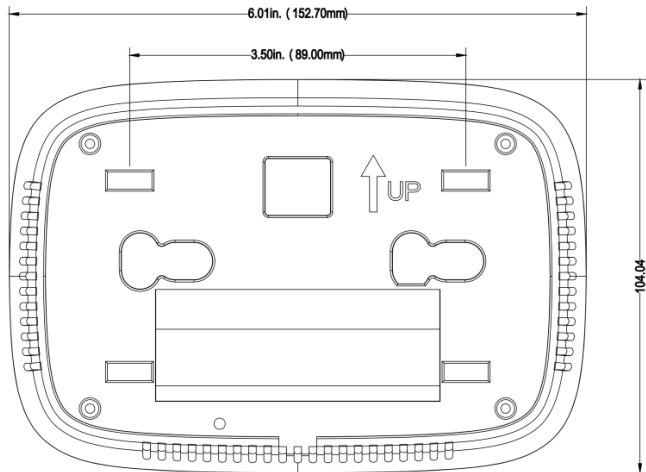


Fig. 2. Lakepro-1 rear dimensions in inches. (mm).

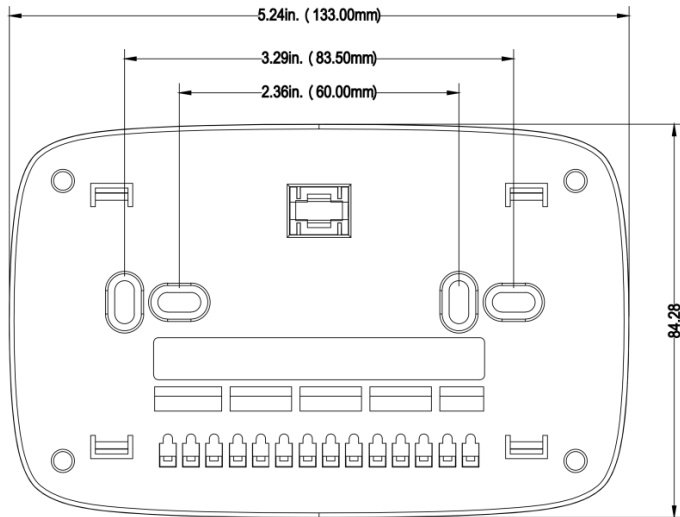


Fig. 3. Lakepro-1 wall plate dimensions in inches. (mm).

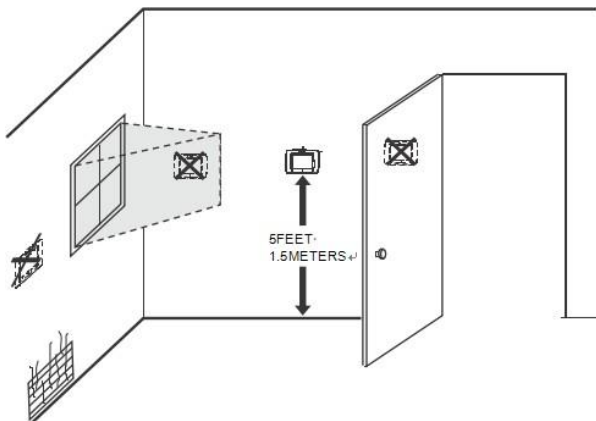


Fig.4. Selecting the thermostat location.

## Installing the Wall plate



### CAUTION

**Electrical hazard! Can cause electrical shock or equipment damage. Disconnect power before wiring.**

The thermostat should be mounted horizontally on the wall.

If mounting on dry wall:

1. Position and level the wall plate on the wall.
2. Use a pencil to mark the inner mounting holes.
3. Remove the wall plate from the wall and drill two holes in the wall as marked. Gently tap the anchors (provided) into the drilled holes until flush with the wall.
4. Position the wall plate over the holes, pulling wires through the wiring opening. See Fig.5.
5. Insert the mounting screws (provided) into the holes and tighten.

If mounting on a horizontal 2x4 electrical box:

1. Align the outer holes with the holes on the electrical box.
2. Insert machine screws (not provided) into the holes.
3. Pull wires through the wall opening.
4. Level the wall plate and tighten the screws.



Note: If you are mounting on a vertical 2x4 electrical box or on a 4x4 electrical box you will need to purchase an adapter ring.

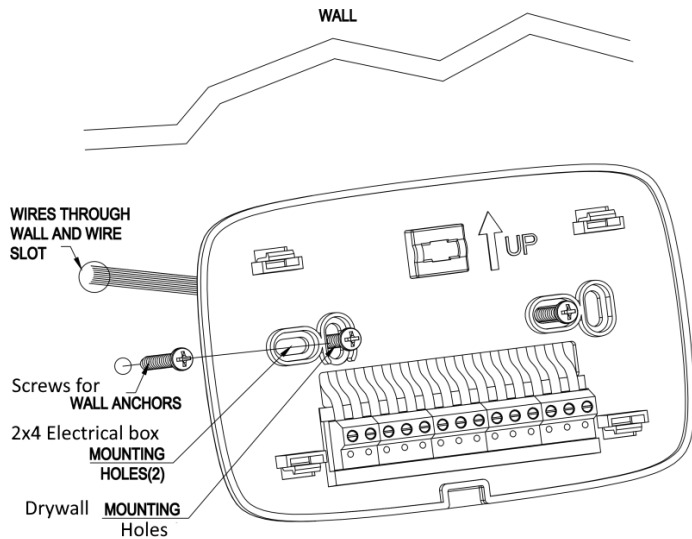


Fig.5. Mounting wall plate.

# WIRING

All wiring must comply with local electrical codes and ordinances.

1. See Table 1 and Fig.6 for terminal designation descriptions. Insert wires in the terminal block under the loosened screws. See Fig.7.
2. Securely tighten each screw.
3. Push excess wire back into the hole in the wall.
4. Plug the hole with nonflammable insulation to prevent drafts from affecting the thermostat.

Table 1. Terminal Designation Descriptions.

<b>Terminal Designation</b>	<b>Description</b>
RC (see Note 1)	Power for cooling--connect to secondary side of cooling system 24v transformer
R (see Note 1)	Power for heating--connect to secondary side of heating system 24v transformer
C	Common wire from secondary side of 24V transformer
Y	Compressor contactor
G	Fan relay
Y2	Second stage cooling
O/B/W (see Note 2)	Changeover valve for heat pump systems or Heat relay
AUX/W2	Auxiliary heat relay for heat pump systems or Second stage heat relay
E	Emergency heat relay for heat pump systems
L (see note 3)	Equipment alarm monitor for heat pump systems

## NOTES:

1. When used in a single-transformer system, leave the metal jumper wire in place between RC and R. If used on a two-transformer system, remove the metal jumper wire between RC and R.
2. If the thermostat is configured for a heat pump system, configure the changeover valve for energized on cool or heat in the Installer setup.
3. The L terminal is an input for optional system alarm monitoring. If the terminal is connected to 24V, ES (emergency signal) will appear on the screen, overriding the room temperature display.

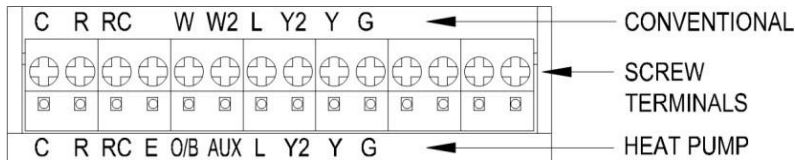


Fig.6.Terminal identifications.

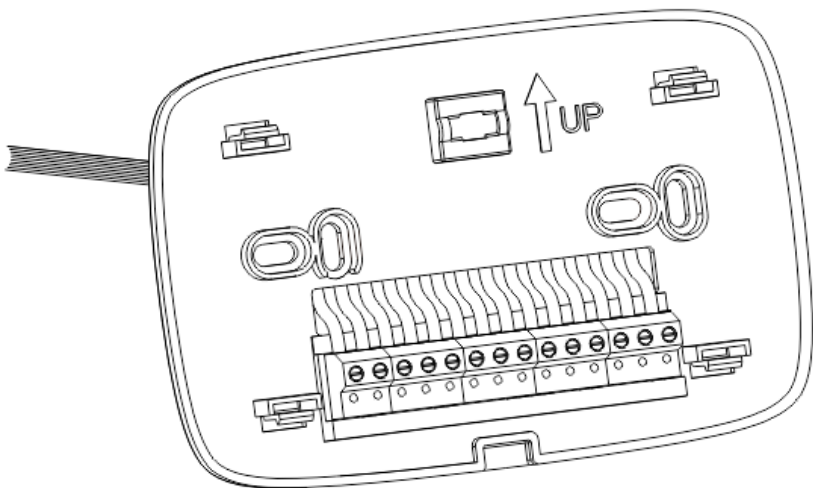
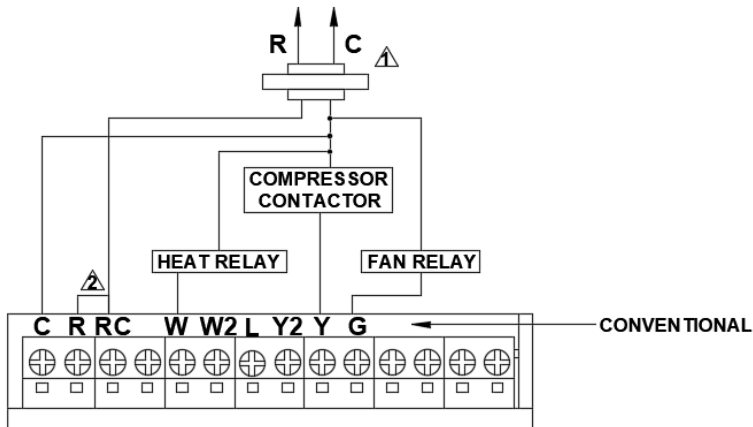


Fig.7. Inserting wires in terminal block.

**IMPORTANT:** Use 18 gauge thermostat wire.

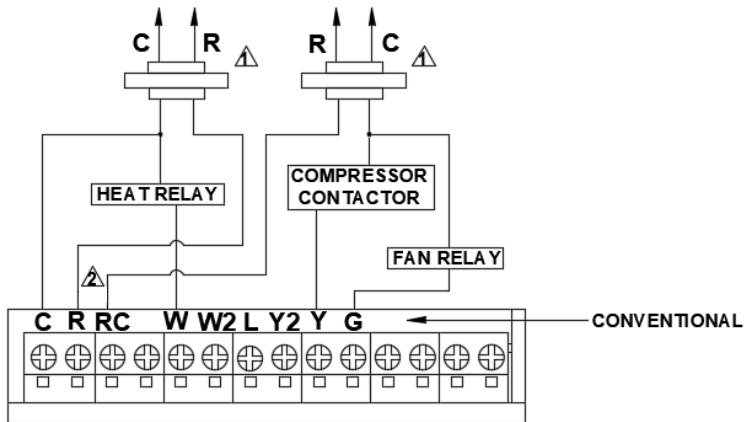




1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER. DO NOT REMOVE.

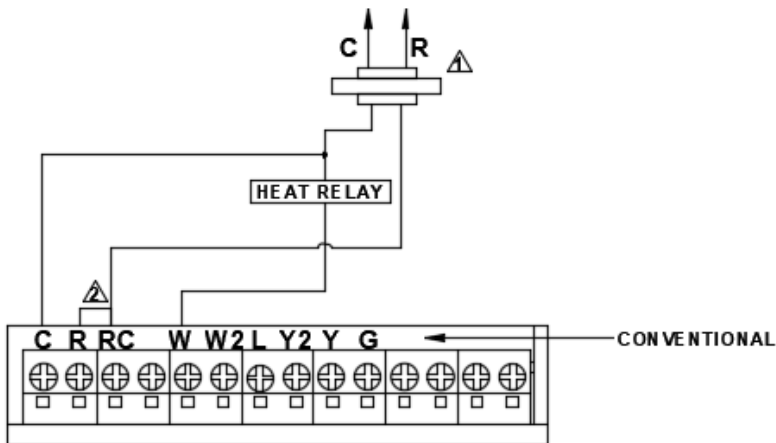
Fig. 8. Typical wiring for a conventional single-stage heat and cool system with a single Transformer (1H/1C conventional).





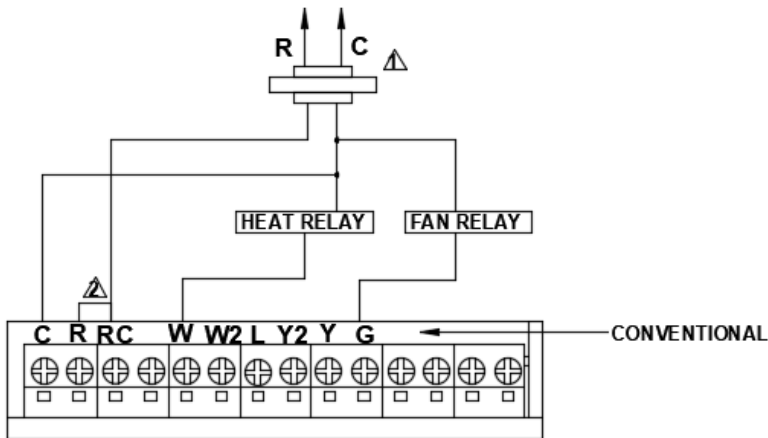
1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. REMOVE FACTORY INSTALLED JUMPER.

Fig. 9. Typical wiring for a conventional single-stage heat and cool system with two transformers (1H/1C conventional).



1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER. DO NOT REMOVE.

Fig. 10. Typical wiring for a heat-only system (1 H conventional).

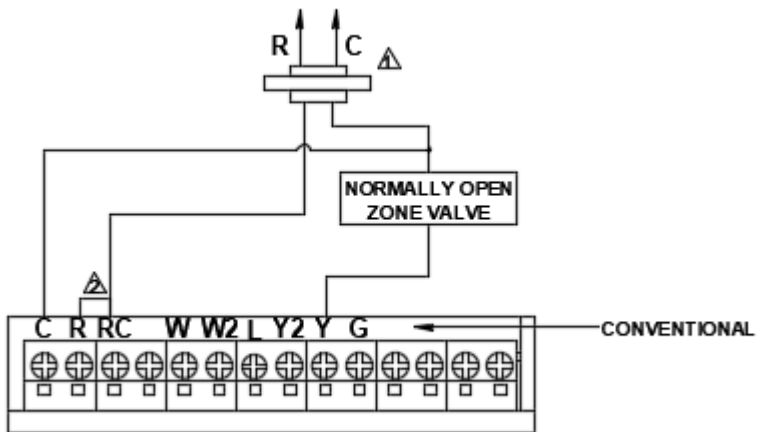


1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER. DO NOT REMOVE

Fig. 11. Typical wiring for a heat only system with the fan controlled by the thermostat (1H conventional).

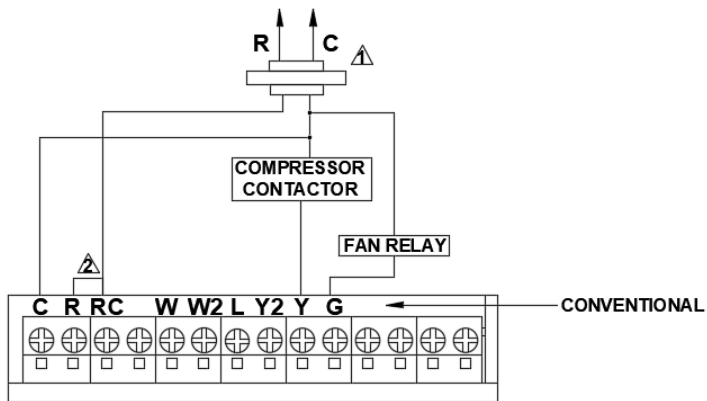






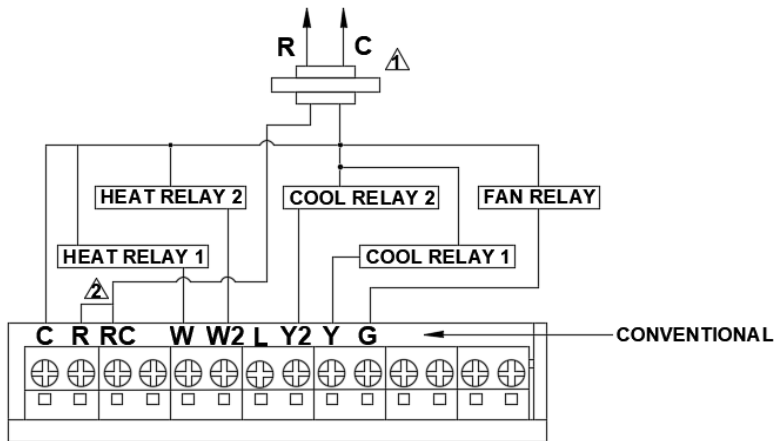
1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER. DO NOT REMOVE

Fig. 13. Typical wiring for a heat only system with a normally open zone valve.



1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER DO NOT REMOVE.

Fig. 14. Typical wiring for a single stage cool only system (1C conventional).

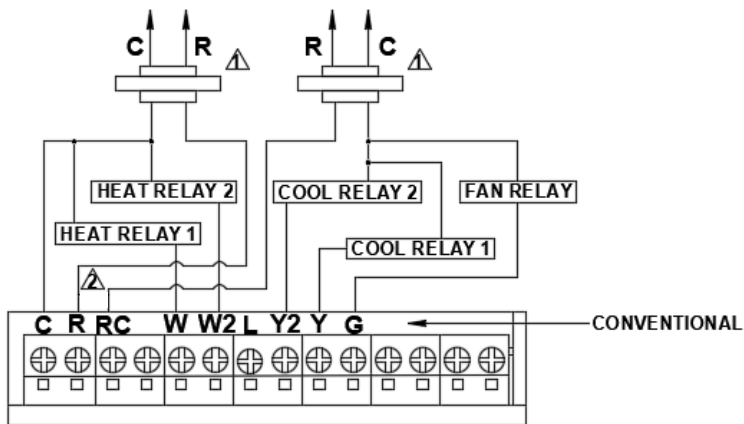


1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER. DO NOT REMOVE

Fig. 15. Typical wiring for a conventional multistage one or two-stage heating and one or two-stage cooling system with a single-transformer (2H/2C, 2H/1C or 1H/2C conventional).

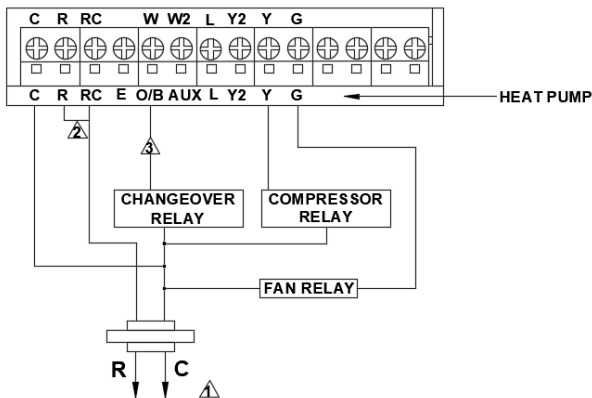






1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. REMOVE FACTORY INSTALLED JUMPER.

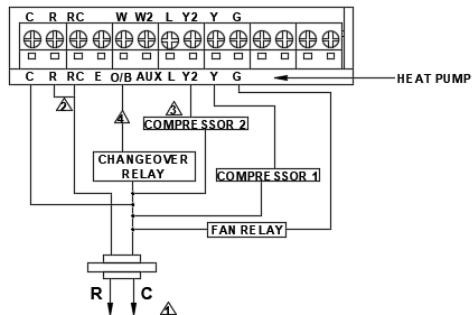
Fig. 16. Typical wiring for a conventional multistage one or two-stage heating and one or two-stage cooling system with two-transformers (2H/2C, 2H/1C or 1H/2C).



1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER. DO NOT REMOVE
3. "O/B" TERMINAL MUST BE SET TO ENERGIZE EITHER ON "O" (FACTORY DEFAULT) OR "B" IN THE INSTALLER SETUP.

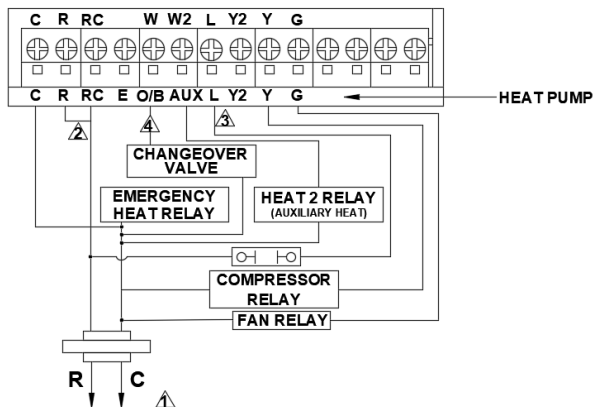
Fig. 17. Typical wiring for a single-stage heat pump with no auxiliary/backup heat (1H/1C heat pump).





1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER.DO NOT REMOVE.
3. "O/B" TERMINAL MUST BE SET TO ENERGIZE AS EITHER AS "O" (FACTORY DEFAULT) OR "B" IN THE INSTALLER SETUP.

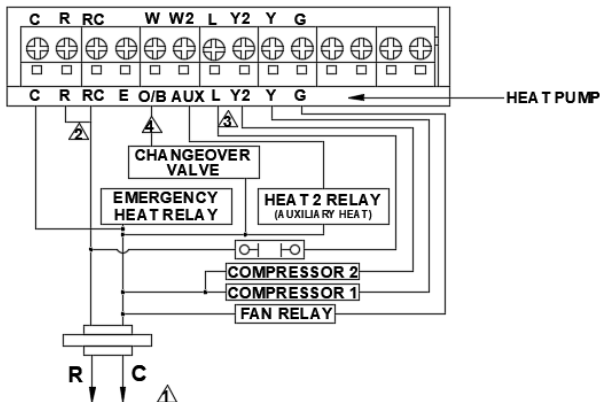
Fig. 18. Typical wiring for a multistage heat pump with no auxiliary/backup heat (2H/2C heat pump).



1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER. DO NOT REMOVE
3. THE L TERMINAL IS SHOWN MONITORING AN OPTIONAL ALARM CONTACT. IF THE CONTACT CLOSES, THE THERMOSTAT WILL DISPLAY "ES", OVERRIDING THE ROOM TEMPERATURE DISPLAY.
4. "O/B" TERMINAL MUST BE SET TO ENERGIZE AS EITHER "O" (FACTORY DEFAULT) OR "B" IN THE INSTALLER SETUP.

Fig. 19. Typical wiring for a single-stage heat pump with auxiliary/backup heat (2H/1C heat pump).SEE IMPORTANT NOTE ON PAGE 36 IF DUAL FUEL HEAT PUMP.





1. POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
2. FACTORY INSTALLED JUMPER. DO NOT REMOVE.
3. THE L TERMINAL IS SHOWN MONITORING AN OPTIONAL ALARM CONTACT. IF CONTACT CLOSSES, THERMOSTAT WILL DISPLAY "ES", OVERRIDING THE ROOM TEMPERATURE DISPLAY.
4. "O/B" TERMINAL MUST BE SET TO ENERGIZE AS EITHER "O" (FACTORY DEFAULT) OR "B" IN THE INSTALLER SETUP.

Fig. 20. Typical wiring for a multistage heat pump with auxiliary/backup heat (3H/2C heat pump).SEE IMPORTANT NOTE ON PAGE 36 IF DUAL FUEL HEAT PUMP.





# POWERING UP THE THERMOSTAT

## Wiring the 24VAC Common (“C” wire)

- Single-Transformer System:

Connect the common side of the transformer to the C screw terminal of the thermostat wall plate. Leave the metal jumper wire in place between RC and R.

- Two-Transformer System:

Connect the common side of the heating transformer to the C screw terminal of the thermostat wall plate. Remove the metal jumper wire between RC and R.

## Mounting the Thermostat to the Wall Plate

Align the terminal screw blocks with the pins on the back of the thermostat. Push the thermostat straight onto the wall plate until it snaps into place. See Fig. 21.

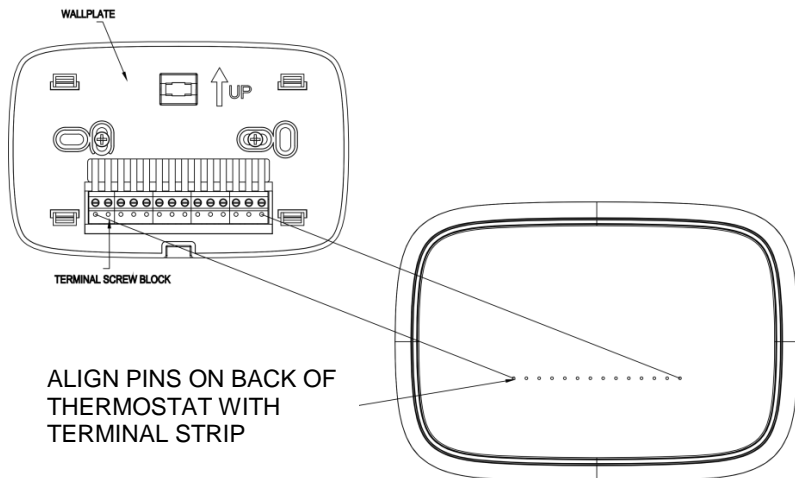


Fig.21. Mount thermostat to wall plate after aligning pins.

# Programming the thermostat

Follow these steps to enter the:

- a) Installer Setup. These are parameters that should be selected by the installer at the time of the initial installation regarding the specific application and system type being controlled.
- b) User Setup. These are parameters that can be selected by the user regarding personal preferences which can be changed at any time after the initial installation.

# INSTALLER SETUP

Follow these steps to enter the Installer Setup:

1. See Fig. 22-1. Press and release the **System** Key until the System mode blinks, then press and hold the **System** key for approximately 5 seconds until the screen changes. The unit submenu number will display at the bottom right corner. See Fig. 22-2 (showing submenu 0150).

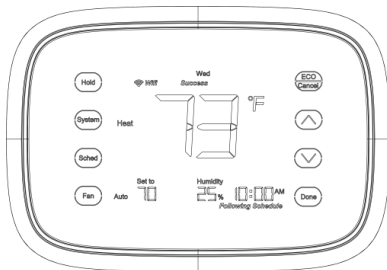







Fig.22-1



Fig.22-2.

2. Press  or  key to select the submenu, and press the  key to enter the submenu. Under submenu use  or  to change the settings. See Fig.22-3.

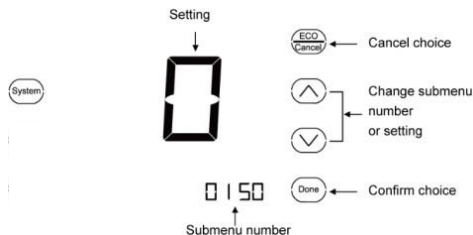




Fig.22-3.

3. Press  key to exit and confirm the changes, or press  to exit without saving changes.

**Note:**

- See Table 2 for the Installer Submenu Numbers and Settings.
- If the touchpad is locked the installer can still enter Installer Setup by pressing the System key for 5 seconds.

Table 2.Installer Setup Menu.

**Factory Defaults in Bold**

Submenu Number	Name	Settings	Notes
0140	version	See Firmware version (display only)	
0150	Date and time	Set calendar date and time	
0160	Schedule Options	<b>0-non-programmable</b> 1-7 day programmable	If this setting is changed, any user programmed schedule will be erased and replaced by the default one.





Submenu Number	Name	Settings	Notes
0170	System Type Selection	<b>1-1heat/1cool conventional</b> 2-single-stage heat pump (no auxiliary heat) 3-Heat only conventional (no fan) 4-heat only conventional (with fan) 5-heat only (power to open and close zone valves or normally- open zone valves) 6-cool only conventional 7-2heat/1cool heat pump (with auxiliary heat- SEE IMPORTANT NOTE BELOW) 8-2heat/2cool multistage conventional 9-2heat/1cool multistage conventional 10-1heat/2cool multistage conventional 11-2heat/2cool heat pump (no auxiliary heat) 12-3heat/2cool heat pump (with auxiliary heat SEE IMPORTANT NOTE BELOW)	System selection automatically modifies some default settings and/or hides other InstallerSetup options.

**IMPORTANT NOTE: WARNING:** If you have a heat pump and your back up heat is a gas or oil furnace (also known as a dual fuel heat pump), you must have an external fossil fuel kit installed

in your system to ensure the heat pump and gas or oil system do not run at the same time. This thermostat will not manage that operation and cannot be used without an external fossil fuel kit. If you do not know if you have a fossil fuel kit, please contact a heating and/or cooling contractor to help you identify if you have one or not.

Submenu Number	Name	Settings	Notes
0180	Fan Control in Heating	<b>0-gas or oil furnace- equipment controls fan in heating</b> 1-electric furnace- thermostat controls fan in heating	Only shown if conventional system is selected. If heat pump is selected, fan defaults to thermostat control.
0190	Changeover Valve O/B Terminal Energized in Heating or Cooling (Heat Pumps Only)	<b>0-changeover valve O/B terminal is energized in cooling (O)</b> 1-changeover valve O/B terminal is energized in heating (B)	Only shown if heat pump system is selected.



Submenu Number	Name	Settings	Notes
0280	Display in standby	0-show temperature only <b>1-show main menu</b>	
0290	Backlight selection	<b>0-backlight off during standby</b> 1-backlight always on	
0300	Changeover	<b>0-manual changeover</b> 1-auto changeover	This refers to changing from Heat to Cool mode and vice versa
0310	Dead band	2°F (1.5°C); <b>3°F (2°C)</b> ; 4°F (2.5°C); 5°F (3°C); 6°F (3.5°C); 7°F (4°C); 8°F (4.5°C); 9°F (5°C)	Shown only if 0300 is selected for auto changeover.
0320	Temperature Indication Unit	<b>0-Fahrenheit</b> 1-Celsius	If this setting is changed, the schedule needs to be reprogrammed



Submenu Number	Name	Settings	Notes
0330	1 <sup>st</sup> stage hysteresis	1 F, <b>2F</b> , 3 F (0.5C, <b>1C</b> , 1.5C)	
0340	2 <sup>nd</sup> stage hysteresis	1 F, <b>2F</b> , 3 F (0.5C, <b>1C</b> , 1.5C)	
0350	3 <sup>rd</sup> stage hysteresis	1 F, <b>2F</b> , 3 F (0.5C, <b>1C</b> , 1.5C)	
0500	Furnace Filter Change Reminder	<b>0- furnace filter reminder off</b> 1-10 run time days 2-30 run time days 3-60 run time days 4-90 run time days 5-120 run time days 6-365 run time days	Run time based on call for fan.

Submenu Number	Name	Settings	Notes
0530	Adaptive Intelligent Recovery	<b>0-Conventional Recovery (system starts recovery at programmed time)</b> 1-Adaptive Intelligent Recovery control is activated (system starts early so set point is reached by start of program period).	Shown only if 0160 is set to programmable
0580	Minimum Compressor Off Time	<b>5-five-minute compressor off-time setting</b> 0,2,3,4 minutes- other compressor off-time settings	
0600	Maximum Heat Set Temperature Limit	40-90F ( <b>default 90F</b> ) - temperature range (in 1°F increments) 4.0-32.0C ( <b>default 32.0C</b> ) (in 0.5C increments).	



Submenu Number	Name	Settings	Notes
0610	Minimum Cool Set Temperature Limit	50-99F ( <b>default 50F</b> ) - temperature range (in 1°F increments) 10.0-37.0C ( <b>default 10C</b> ) (in 0.5C increments).	
0640	Clock Format	<b>12-12 hour clock</b> 24-24 hour clock	
0650	Extended Fan On Time Heat	<b>0-No extended fan operation after call for heat ends.</b> 90-Fan operation is extended 90 seconds after call for heat ends.	Not shown in Cool Only Systems
0660	Extended Fan On Time Cool	<b>0-No extended fan operation after call for cool ends</b> 90-Fan operation is extended 90 seconds after call for cool ends.	Not shown in Heat Only Systems.

Submenu Number	Name	Settings	Notes
0670	Touchpad Lockout	<b>0-unlocked touchpad</b> 1-locked touchpad	When the touchpad is locked, the user/installer needs to press the system key for 5 seconds to enter
0680	WiFi selection	0-WiFi Off <b>1-WiFi On</b>	
0700	Temperature Display Offset	-9°F to 9°F (in 1F increments) -4.5°C to 4.5°C (in 0.5C increments) <b>0°F (0°C)</b>	
0710	Reset thermostat	<b>0-no thermostat reset.</b> 1-Resets all Installer Setup Options to default values and resets schedule to default setting.	If thermostat is reset only the calendar settings and time settings are retained.

# OPERATION

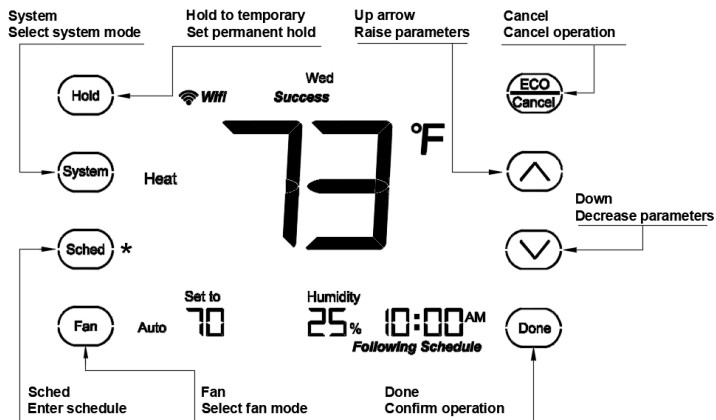


Fig.23. Thermostat Keys

Note: \* Will not appear if setup submenu number 0160 is set for non-programmable (factory default)



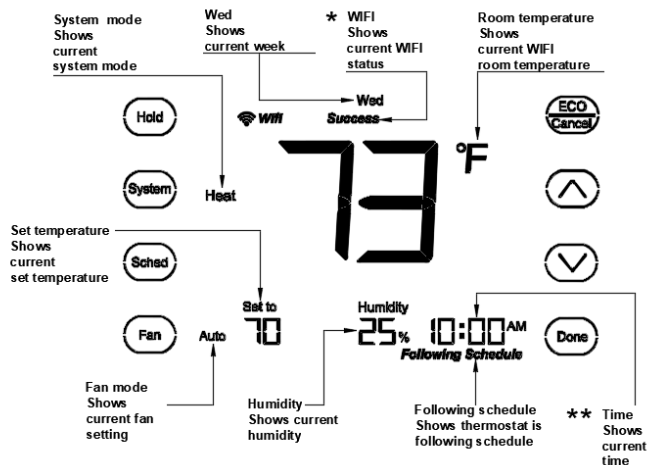


Fig.24. Thermostat Display









Notes: \* Only shows if Installer submenu number 0680 is set for WiFi (default)

\*\* Displays as 12 or 24 hour clock selectable under Installer Submenu 0640. 12 hr is the default.



# User Setup

Follow these steps to enter the User Setup:

1. Press and hold the  key for approximately 3 seconds until the screen changes. The submenu number displays at the bottom right corner.
2. Press  or  key to select the submenu, and press the  key to enter the submenu. Under submenu, use  or  to select the settings.
3. Press  key to exit and confirm the settings, or press  to exit without saving changes.

**Note:** See Table 3 for the User Setup Submenu Numbers and Settings.

Table 3. User Setup Settings.  
**Factory Defaults in Bold.**

Submenu Number	Description	Settings
0140	version	See Firmware version (display only)
0150	Date and time	Current calendar date and time
0290	Backlight selection	<b>0-backlight off during standby</b> 1-backlight always on
0320	Temperature Indication Unit	<b>0-Fahrenheit</b> 1-Celsius
0640	Clock format	<b>12 - 12-hour clock</b> 24 - 24-hour clock





Submenu Number	Description	Settings
0670	Touchpad Lockout	<b>0-unlocked touchpad</b> 1-locked touchpad
0680	WiFi selection	0-WiFi Off <b>1-WiFi On</b>
0700	Temperature Display Offset	-9°F to 9°F (in 1F increments) -4.5°C to 4.5°C (in 0.5C increments) <b>0°F (0°C)</b>
0710	Reset thermostat	<b>0-no thermostat reset.</b> 1-Resets all Installer Setup Options to default values and resets schedule to default setting. Only date and time are retained

## Date/time Setting












1. Enter USER SETUP, select submenu number 0150 and enter the date and time setting.
2. Press  to switch date to time in the following order: year, month, day, hour, and minute. Press  or  to adjust the time. (You can advance the time more quickly by holding down the  key or  key buttons.)
3. Press  to save changes and exit or press  to exit without changing the date and time.



Fig.25



## Setting the fan

1. Press  to select fan operation.
2. Press  again to select ON or AUTO (toggle to re-select). The selected option blinks.
3. Press  to save setting or press  to exit without saving changes.

**ON:** Fan is always on.

**AUTO:** Fan runs only when there is a call for heating or cooling.

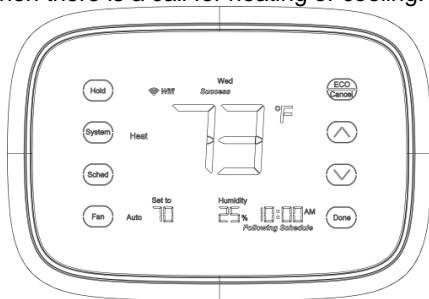


Fig.26



## Selecting the system mode

1. Press **System** to display options.
2. Press **System** again to select an option. You may need to press two or three times to make a selection—the selected option blinks.
3. Press **Done** to save or press **ECO Cancel** to exit without saving changes.

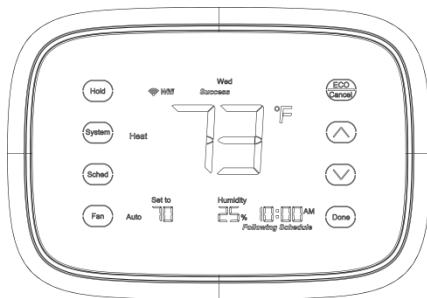


Fig.27

## Selectable system modes:

**HEAT:** Controls only the heating system.

**COOL:** Controls only the cooling system.


**OFF:** Heating/cooling systems are off.

**AUTO:** Selects heating or cooling depending on the indoor temperature.

**EMER (heat pumps with aux. heat only):**

Indicates manual activation of emergency heat. Compressor is locked out.

### Note:

- The AUTO and EMER system settings may not appear, depending on the type of system and changeover selected in the Installer Setup.
- When in Auto mode press the  key to switch the set temperature between heat and cool.








## Set Temperature Overrides

The Lakepro-1 has two temperature override options: **Hold Until** and **Permanent Hold**.

### Hold Until





Holds temperature set temperature temporarily until the next scheduled period time.

1. Press  or  key to adjust the temperature you want to set. The word “Until” appears above the time, and the time displayed is the next scheduled period time.
2. Press  key to exit and confirm the changes, or press  to exit without saving changes.
3. If you want to exit Hold Until, press the  key. Hold Until will be also be automatically canceled when the next scheduled period time is reached.

**Note:** The current time and day of the week needs to be set correctly. If it is not, see User Setup to set the date and time correctly. Also, this option is not available if the thermostat does not have a schedule (Installer Submenu 0160 is set to 0, factory default). In that case, the message “Permanent Hold” will always appear under the Set temperature, indicating that the set temperature will not change until it is manually modified.

## Permanent Hold


Keeps user set-point permanently until it is canceled manually.

1. Press the  key once. Screen shows Permanent Hold under the Set temperature.
2. Press the  or  key to adjust to the set temperature you want.
3. To cancel, press the  key again.

Note: If the thermostat does not have a schedule (Installer Submenu 0160 is set to 0, factory default) the message Permanent Hold will always appear, indicating that the set temperature will not change until it is manually modified

## Cleaning the Thermostat Screen

The thermostat has a touch screen interaction. Follow these steps to clean the screen without making thermostat changes:

1. Press and hold the  key for approximately 3 seconds until the screen changes. The thermostat locks out all touch keys for 30 seconds to allow for cleaning and starts counting down. See Fig. 28.
2. Use a damp cloth slightly moistened with water or house-hold glass cleaner to clean the screen.

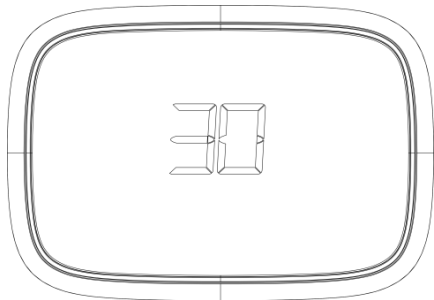



Fig.28.

3. When the counter gets to 0, press the  key to return to the Home Screen and normal operation. See Fig.29.

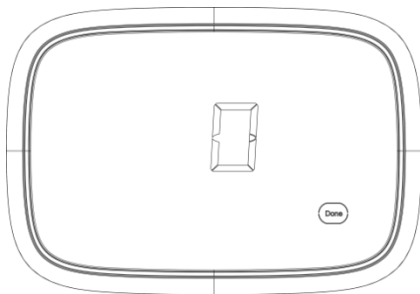



Fig.29.

**IMPORTANT:**

Do not spray any type of liquid directly on the thermostat itself. If using household glass cleaner, spray the cleaner on a cloth. Then use the cloth to clean the thermostat screen.

## Screen Locks

In User or Installer Setup, submenu 0670 allows you to prevent changes to all of the touchscreen functions. In this case, all keys are locked and nonfunctional, and the screen displays a lock icon  continuously. To unlock keys and restore the touchscreen functions, press the System key for 5 seconds to enter installer setup and change the lock function with installer submenu 0670.

## Setting filter reminder intervals

If activated during installation, the filter reminder alerts you by flashing “Filter” on the screen above the time above the clock when it is time to replace your filter.

Press  after changing the filter, to restart the timer. To change the reminder interval:






1. Press and hold the  about 3 seconds until the screen changes.
2. Press  or  to select the desired interval (in days), then press  to save and exit, or press  to exit without saving.



Fig.30

**Note:**

1. Setup submenu 0500 governs the filter reminder interval.
2. The days are counted based on fan run time, so anytime the fan is running, the reminder is counting that time against the number of days selected.

## Connecting to your Wi-Fi network

To complete this process, you must have a smart phone connected to your home wireless network.

### If you get stuck...

At any point in this procedure, restart the thermostat by removing the thermostat from the wall plate, waiting a few seconds, and snapping it back onto the wall plate. Return to Step 1 in this procedure, which starts on the next page.

Note: If you do not want to connect your thermostat to WiFi and do not want the “WiFi Failure” to appear continuously, enter user setup submenu 0680 and set to 0.



1. Please be sure your phone is connected to WIFI, and download the “TuyaSmart” APP from the App store or the Google Play Store.
2. Open the APP, sign up and Log in.

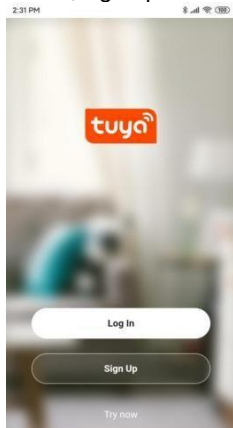


Fig. 31.

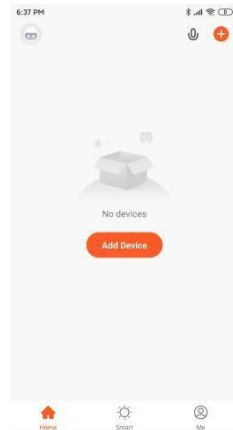


Fig. 32.

3. Press and Hold the “Done” key on the bottom right corner of touchscreen, until the “Wifi Setup” message flashes on the screen. Note: If the “WiFi Setup” message does not appear, make sure Installer Setup submenu 0680 is set to 1 (The factory default) and that the touchpad is not locked.

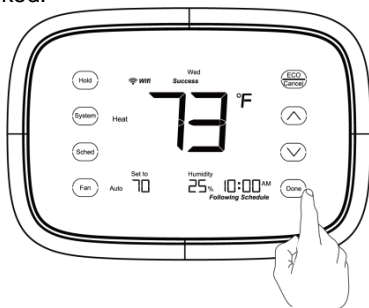


Fig. 33.

4. Open the TuyaSmart APP, click “Add Device” or the “+” button on the top-right corner of the APP. Select Auto scan and the APP will automatically detect the thermostat, the Lakepro-1 should show up under ‘Available devices found’. Press ‘Next’.

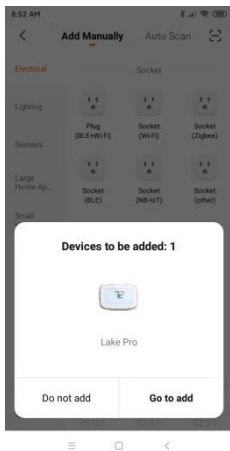


Fig. 34.



Fig. 35.

5. Select the Wi-Fi username and enter the password. Click "Confirm". Note: You may receive a warning that this device only operates on 2.4 GHz routers (most routers have a 2.4 GHz channel). If you do cancel out of the warning page and continue.

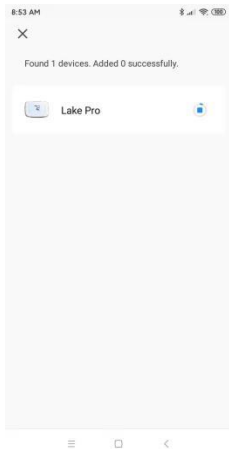


Fig. 36.

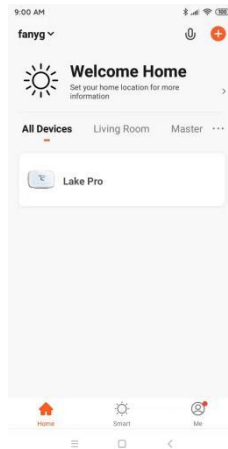



Fig. 37.

6. Wait for the thermostat to be added successfully. You may have to press 'Done'.

## Note:

1. If the thermostat connects to WIFI successfully, it will display the message  *Wifi Success* above the room temperature, otherwise it will display *Wifi Failure* .
2. The configuration needs to be finished within 3 minutes, otherwise the thermostat will quit the configuration mode.
3. During step 4, if the APP did not automatically detect the thermostat, users can select “Add Manually” and follow the instructions to finish Setup.

# PROGRAMMING A SCHEDULE

If scheduling is enabled via Installer setup submenu 0160(comes disabled from factory), a schedule button will appear on the left of the screen and the thermostat will follow the default schedule shown on Table4.

Table 4. Default Schedule Program Settings.

Schedule Period	Time	Set points		Fan Setting
		Heat	Cool	
Wake	6:00AM	68°F (20°C)	78°F (26°C)	Auto
Leave	8:00AM	60°F (16°C)	85°F (29°C)	Auto
Return	4:00PM	68°F (20°C)	78°F (26°C)	Auto
Sleep	10:00PM	60°F (16°C)	82°F (28°C)	Auto

## Editing the default Heating and Cooling Schedule

Your thermostat can control up to four different schedule periods per day:

**Wake** – Start time of the period when you are awake and want your home at a comfortable temperature.

**Leave** - Start time of the period when you go away from home and want an energy-saving temperature.

**Return** - Start time of the period when you return home and want your home back to a comfortable temperature.

**Sleep** - Start time of the period when you are asleep and want an energy-saving temperature or different temperatures.

**NOTE:** Schedule times can be set in 15-minute intervals.

## Editing the Schedule

1. Press **Sched**, and the screen will change. See Fig. 39 and 40.



Fig.39.






Fig.40.

2. The time period being adjusted will appear on the bottom and the day of the week will appear on the top. First, the clock will blink, press **^** or **v** to adjust the time. Press **Sched** to turn to the next setting. Then, the temperature will start to blink, press **^** or **v** to adjust the temperature. Press **Sched** to turn to the next setting.



\*If you do not see the **Sched** button Installer setup submenu 0160 is set to 'Non Programmable' and must be changed.



3. Repeat the above steps until completing the setting of the four time periods. Then, Press  to turn to the next day, until you have completed the setting for the week.
4. To end Schedule Programming, you may press the  key to exit and confirm the program setting, or press  to exit without saving changes.

**NOTE:** The Fan setting is auto by default and cannot be programmed differently in the schedule.

## To Reset the Schedule

You can reset the schedule to the default settings by pressing and holding the  key for approximately 3 seconds until the screen changes as shown in Fig.41. Then release the  key. The weekly schedule will be reset to the default schedule shown on table 4.

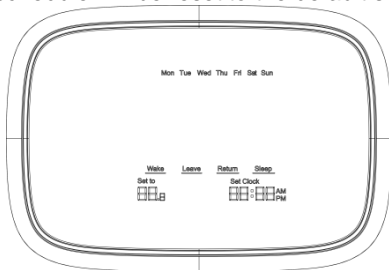


Fig. 41.

## FCC Note

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a

particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## TROUBLESHOOTING

Symptom	Possible Cause	Action
No LCD display	Thermostat is not being powered.	Check for 24VAC between C and R.
Temperature settings do not change.	The upper or lower set temperature limits were reached.	Check set temperature limits. Check Installer Setup submenu 0600 or 0610, and modify as needed.
	The touchpad is fully locked.	Check Installer Setup submenu 0670 to change touchpad lock options.



Symptom	Possible Cause	Action
Heating or cooling does not come on.	Thermostat minimum off-time is activated. (Screen displays 'Wait')	Wait up to five minutes for the system to respond.
	System selection is not set to Heat or Cool.	Set system Selection to correct value.
	System type Selection is incorrect.	Check Installer Setup submenu 0170 and make sure the correct System type is selected.





Symptom	Possible Cause	Action
Thermostat is calling for Heat (Heat on) or Cool (Cool on) but no heating or cooling.	Heating or cooling equipment is not operating.	Check wiring. Check Installer Setup submenu 0170 and make sure the correct system type is selected.
Fan does not turn on a call for heat (electric furnace).	Fan Control in Heating is set to Gas or Oil Furnace (Submenu 0180).	Set Fan Control in Heating to Electric Furnace (Submenu 0180).



Symptom	Possible Cause	Action
Heat pump puts out cool air in heat mode and warm air in cool mode.	Changeover Valve is not configured to match the changeover required by the installed heat pump.	Set Changeover Valve (Installer Setup submenu 0190) to match the changeover required by the installed heat pump.
Both the heating and cooling equipment are running at the same time.	The heating equipment is not a heat pump but the System Type is set to Heat Pump.	Set System Type (Installer Setup submenu 0170) to match the installed heating and/or cooling equipment.
	Heating and cooling wires are shorted together.	Separate the shorted heating and cooling wires.



<b>Symptom</b>	<b>Possible Cause</b>	<b>Action</b>
Heating equipment is running in cool mode.	Heating equipment is not a heat pump but System Type (Installer Setup submenu 0170) is set to Heat Pump.	Set System Type (Installer Setup 0170) to match the installed heating and/or cooling equipment.
Heating equipment does not turn off and heat temperature setting is set below room temperature	Heating equipment is not a heat pump but System Type (Installer Setup submenu 0170) is set to Heat Pump.	Set System Type (Installer Setup submenu 0170) to match the installed heating and/or cooling equipment.
Cannot set the system setting to Heat or Cool.	System Type is set to Cool Only or Heat Only or Heat Only with Fan.	Set System Type (Installer Setup submenu 0170) to match the installed equipment.



Symptom	Possible Cause	Action
The display does not show Heat On.	System is not set to Heat and/or temperature is not above room temperature.	Set the system setting to Heat and set the temperature setting above the room temperature.
The display does not show Cool On.	System is not set to Cool and/or temperature is not below room temperature.	Set the system setting to Cool and set the temperature setting below the room temperature.
The display shows Wait.	Compressor minimum off timer is active.	Wait up to five minutes for the cooling or heating (heat pump) equipment to turn on.
The Touchpad Locked icon (padlock) appears on the screen and the keys do not respond.	The touchpad is locked.	<b>Enter Installer Setup by pressing the System key for 5 seconds.</b> Go to Installer Setup submenu 0670 to change touchpad lock options.









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