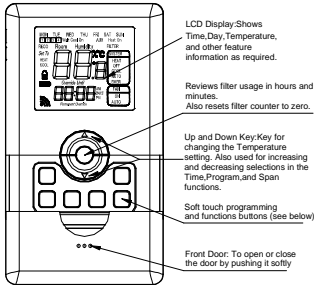# Wireless Thermostat Owners Manual
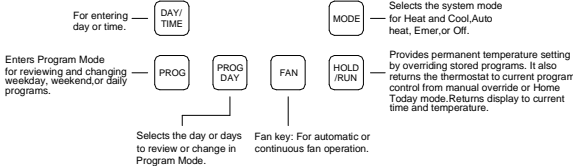
Model:A3900

The product is a thermostat which consists of two parts, one is sender which normally used in client room to send client's adjustment code, and the other is controller which normally used with central air conditioner to receive the adjustment code of sender part and to adjust air conditioner. Please note that the thermostats need to wake up by pressing the middle button for 5seconds when they are first use. Press the middle round button which is between the "UP" and "DOWN" keys for 5seconds till the display shows "PE", the thermostat will disable wireless functions and goes into "Stand By" mode to save the battery energy. Press it again for another 5 seconds to restart the thermostat. This wireless thermostat working at frequency 433.34MHz. Sender:

LCD Display:Shows Time,Day,Temperature, and other feature information as required.

Reviews filter usage in hours and minutes. Also resets filter counter to zero.

Up and Down Key:Key for changing the Temperature setting. Also used for increasing and decreasing selections in the Time,Program,and Span functions.

Soft touch programming and functions buttons (see below)

Front Door: To open or close the door by pushing it softly

FEATURES

Structure of thermostat and explanation for the keypads

For entering day or time. — DAY/TIME

Enters Program Mode for reviewing and changing weekday, weekend,or daily programs. — PROG

PROG DAY

FAN

HOLD /RUN — Provides permanent temperature setting by overriding stored programs. It also returns the thermostat to current program control from manual override or Home Today mode.Returns display to current time and temperature.

MODE — Selects the system mode for Heat and Cool,Auto heat, Emer, or Off.

Selects the day or days to review or change in Program Mode.

Fan key: For automatic or continuous fan operation.

We are pleased you have selected one of our broad line of wall thermostats. Our products are manufactured to high quality standards and are designed for years of service.
REMOVE THE MYLAR LABEL FROM THE LCD DISPLAY WINDOW.

ARMCHAIR PROGRAMMING

1. You can program your thermostat prior to installation by following these instructions and starting at the configuration menu. This can be done while you relax in your favorite chair and is a very good way to familiarize yourself with all the functions of your thermostat.

The following time and temperature settings are pre-programmed into the thermostat:

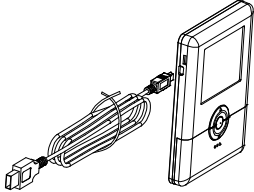| Program Number	Time	Temperature in °F (°C)	
		Heat	Cool
1	6:00 am	68°F(20°C)	78°F(26°C)
2	8:00 am	60°F(16°C)	85°F(29°C)
3	4:00 pm	68°F(20°C)	78°F(26°C)
4	10:00 pm	60°F(16°C)	82°F(28°C)

COMPRESSOR PROTECTION

2. The thermostat provides a 4 minutes delay after shutting of the heating or cooling system before it can be restarted. This feature will prevent damage to your compressor caused by rapid cycling. Note that this delay also applies to the heating system control. It does not provide a delay when there are power outages. You can select the function on or off at the configuration.

TEMPERATURE RANGE

3. This thermostat can be programmed between 45°F and 95°F (7°C and 35°C). However, it will display room temperatures from 30°F to 99°F (0°C and 37°C). This thermostat will automatically cutoff in Heat mode if the temperature rises above 95°F (35°C), and automatically cutoff in Cool mode if the temperature drops below 45°F (7°C).
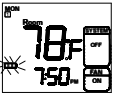
POWER SUPPLY

4. The thermostat is supplied with a Li-battery. You can charge the Lithium battery through a USB cable (included) connected to a PC. During the charge process the battery icon will flash on and off.

Note: The Lithium battery should be charged over 12 hours for the first 3 times to properly condition the battery.

Low Battery Warning

5. Your thermostat has a battery warning system. When the batteries are first detected to be weak, the first stage low battery warning is indicated by battery symbol flashing on the LCD display. At your earliest convenience, you need to charge the batteries through USB. During the charging process the battery icon will flash one by one. When the battery charge completes, the battery icon will disappear.

WIRELESS Modulation: GFSK
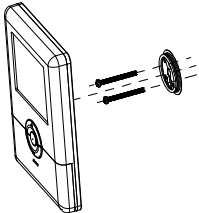**WIRELESS Tx/Rx Datarate:** 10KBaud
WIRELESS Tx/Rx Deviation: 19KHZ

WIRELESS CHANNEL

Wireless Channel	Communications Center Frequency	Allowable Frequency Differences
1	433.594 MHZ	±30KHZ
2	433.794 MHZ	±30KHZ
3	433.994MHZ	±30KHZ
4	434.194 MHZ	±30KHZ
5	434.394 MHZ	±30KHZ
6	434.594 MHZ	±30KHZ

INSTALLATION

What You Need
This thermostat includes two #8 slotted screws and two wall anchors for mounting. To install your thermostat, you should have the following tools and materials.
■ Slotted Screwdriver(s)   ■ Small Philips screwdriver   ■ Hammer   ■ Electric drill and 3/16" bit

OPERATION

Standby mode

When remove the thermostat from the box, the temperature will update after a few second. You can choose to set the thermostat or enter "Standby" mode. Press and hold the middle round button which is between the "UP" and "DOWN" keys for 5 seconds, "PE" will be displayed on the LCD to indicate Standby Mode. When you are ready to use the thermostat, press and hold the round button for 5 seconds to exit Standby Mode.
NOTE: We suggest you to change the thermostat to "Stand By" mode when you don't use the thermostat for a long time.

Fan Operation

If your system does not have a G terminal connection, skip to the next section (Heating system)..
1. Turn on the power switch of the system.
2. Press FAN key to ON mode. The blower should begin to operate.
3. Press FAN key to AUTO mode. The blower should stop immediately

Heating System (SPAN=2,SP2=2)

1. Press the MODE key until HEAT shows on the LCD display.
2. Press to adjust thermostat setting to 2°F (1°C) above room temperature. The heating system should begin to operate. The display should show "Heat On". However, if the "Wait" is displaying and flashing, the compressor lockout feature is operating (see Configuration menu, item 10).
3. Adjust temperature setting to 4°F (2°C) above room temperature. If your system configuration is set to "HP1" or "HP2", the auxiliary heat system should begin to operate and the display should show "AUX Heat On".
4. When the room temperature above the thermostat setting, the heating system should stop operating.

Emergency System

EMER MODE bypasses the Heat Pump to use the heat source wired to terminal E/W1 on the Controller. EMER Mode is typically used when the compressor has failed or the outdoor temperature is too cold to run the heat pump.
1. Press the MODE key to select EMER mode, "EMER" will show on the display.
2. Press to adjust thermostat temperature setting above room temperature. The Emergency. Heating system will begin to operate. The display will show "Heat On" "EMER" to indicate that the system is operating.
3. When the room temperature above the thermostat setting. The Emergency heating system should stop operating.

Cooling System (SPAN=2,SP2=2)

1. Press MODE key to select the Cool mode.
2. Press to adjust thermostat setting below room temperature. The blower should come on immediately, followed by cold air circulation. The display should show "Cool On".
3. Adjust temperature setting to 4°F (2°C) below room temperature. The second stage cooling should begin to operate.
4. When the room temperature below the thermostat setting. The cooling system should stop operating.

CONFIGURATION MENU

INSTALLER CONFIGURATION MENU				
Step	Press Button	Displayed (Factory Default)	Press up or down key to select	Comments
1	Mode		System OFF	System must be OFF to run Configuration menu
2	PROG	STD2	SS1, HP2, HP1	Selects System Configuration Conventional,SS1,Heat Pump 1 or 2 stage
3	PROG	FAN(HE)	HG	Select Fan GAS/ELECTRIC(Only used for STD2 or SS1)
4	PROG	RECO(OF)	ON	Recovery function ON or OFF
5	PROG	SPAN(2)	1,3	Cycle Rate Selection-Stage 1 (1 Fast 3 Slow)
6	PROG	BLIT(ON)	OF	BackLight On or OFF
7	PROG	SP2(2)	1,3	Cycle Rate Selection-Stage 2 (1 Fast 3 Slow)
8	PROG	CF(F)	C	Selects temperature display °F or °C
9	PROG	HOUR(12)	24	Selects time format 12 or 24 Hr
10	PROG	COHP(ON)	OF	Selects Compressor Lockout OFF or ON
11	PROG	CANL(01)	01-10	Selects Communication Channels. Requires thermostat to be re-matched
12	PROG	CRES(0)	1	This function is not used in installer configuration. This function is for Matching you thermostat and controller.
13	PROG	TEST(0)	1,2	Selects"2"to test system outputs. Turn off power to condensing unit before using this function. There is no use for "1".
14	PROG	FACT(0)	1	To restore factory defaults. Select "1" if desired, all the setting will go back to factory default. Requires thermostat to be re-matched

The configuration menu allows you to set certain thermostat operating characteristics to your system or personal requirements. The configuration menu table summarizes the configuration options and explanation of each option.

1) Press the MODE key to OFF, then press PROG key and hold it for 5 seconds to enter configuration menu. The display will show the first item in the configuration menu.. Press the PROG key to step to the next menu item. To exit the menu and return to the program operation, press Hold/Run Key. If no keys are pressed within fifteen Seconds, the thermostat will revert to normal operation.
2) The display indicates "STD2" (default for multi-stage mode) in the display. Select the system "SS1","HP1" or "HP2" by pressing the up or down key. In "SS1" and "STD2" configuration, EMER mode is useless.
3） This thermostat is configured from the factory to operate an electric heat or heat-pump system that requires the thermostat to turn on the fan on a call for heat.   If you system is a heat/cool, fossil fuel (gas, oil, etc.), forced air system, SELECT the HG. The HE/HG must be set to match the type of Auxiliary heat your system uses for proper operation in the EMERGENCY mode.
4) Select Energy Management Recovery OFF or ON
Your thermostat is set "OF" from the factory. You can select "ON" to gradually recover the room temperature from an energy saving program to your comfort program. Therefore, the thermostat may turn your system on several minutes prior to your programmed start time.
5) Fast or Slow Cycle Selection (one stage)
6) Select Backlight function OFF or ON
7) Fast or Slow Cycle Selection (two stage)
8) Select °F or °C Readout. Changes the display readou t to Centigrade or Fahrenheit as required. When you change this parameter the thermostat will reset the temperature settings to it's default settings and you will have to re-program the temperature setting as your need. You can familiar with the detail step through the following section "Manual Programming".
9) Selects time format display 12hours or 24hours
10) Select Compressor Lockout COMP OF or ON
Selecting COMP ON will cause the thermostat to wait 4 minutes before turning on the compressor if the heating and cooling system loses power. It will also wait 4 minutes minimum between cooling and heating cycles. This is intended to help protect the compressor from short cycling. Some newer compressors already have a time delay built in and do not require this feature. When the thermostat compressor time delay occurs, it will display "Wait" for about 4 minutes.
11) This mode is used to set the communication channels. There maybe Interference signal which affect the communication between thermostat and Controller. You can change the channel to avoid this. The thermostat and controller must be re-matched after changing channels.
12) Use up key to change the parameter to "1", the thermostat will match with the controller automatically. You can familiar with the detail step through the following section "MATCHING".
13) Change the parameter to "2" by pressing the "up" key. The relays will open one by one. This item is only for factory testing, not for user. If the wires are still connected, this test may be dangerous. User should keep this parameter in "0".
14) Select "1" to restore factory default settings. This will lead the thermostat to be re-matched the controller.

Setting Time And Day

■ Initial display after power-up. The temperature will update after a few seconds.
■ During time and day setting mode, the temperature display will disappear.
EXAMPLE: Set the Thermostat to the current time of 8:00 pm. on Monday Refer to Figure below.

	Press	Display Reads
Step 1	DAY/TIME	■Press Day/Time key. The current hour and AM or PM indicator are flashing. ■Press to change the hour. Note AM/PM
Step 2	DAY/TIME	■Press Day/Time key again. The current min is flashing. ■Press to change the min
Step 3	DAY/TIME	■Press Day/Time key. The current week is flashing. ■Press to change the week.

After about 30 seconds, the thermostat will return to normal automatically.

Manual Programming

■ Your thermostat can be programmed for weekdays and weekends, or have unique programs for each of the 7 days of the week. Use Weekday / Weekend Programs or 7-day Programming to enter or revise programs to match your Personal Program Schedule. The same steps are used when entering programs for the first time or revising programs entered during Auto Programming.
■ Familiarize yourself with Manual Programming, so that you can easily modify your programs as your comfort needs change. The example below demonstrates the Manual Programming method.
NOTE:
1. The program time can be set in 10-minute increments, and remains the same for both Heat and Cool programs.
2. The program temperature can be set in increments of 1°F (1°C).
3. The Heat setpoint can not be set higher than the Cool set point, and the Cool setpoint can not be set lower than the Heat set point.
4. When setting the program time, note the AM/PM indicator.
5. With the Auto Recovery feature enabled, you do not need to set your comfort program times early. Auto Recovery will determine how early to turn your system on, so that the room is comfortable at the program time.

Weekday/Weekend Programming

Weekday Programs

	Press	Display Reads
		■ Normal display of time, temperature, and day of the week.
Step 1	PROG DAY	■ Selects days Mon to Fri for same set of 4 programs each day.
Step 2	PROG	■ Program indicator(1) is displayed. ■Mon to Fri is displayed. ■The Program hour indicator are flashing. Press to change the hour. ■ Note AM/PM
Step 3	PROG	■Press again to change to the minute position. The period minute will be flashing. ■ Press to change the minute
Step 4	PROG	■ Press again to change to the program COOL set temperature. The period program will be flashing. ■ Press to change the temperature. Note HEAT/COOL

	Step 5	■ Press again to change to the program HEAT set temperature. The period program will be flashing. ■ Press to change the temperature. ■ Note HEAT/COOL
	PROG	

Weekday program 1 is complete.

Step 6 ■ Press PROG to move to program 2,3, and 4 and follow the same steps.

PROG	■ to insert or change time and temperature of other Programs.
PROG DAY	■Selects weekend days Sat, Sun for same set of 4 programs each weekend day. ■ Follow steps 2-4 to enter programs.

Similar to weekday programming.

PROG DAY	PROG	to insert weekend programs.

Similar to weekday programming.

PROG DAY	PROG	to insert Individual programs.

NOTE: Another approach to programming is to first program all weekdays Mon through Fri and Sat and Sun as same programs. Then, display and change the programs of only those days which will have different programs.

Temporary Manual Override

To temporarily change the current set temperature without affecting your program:
■ Press up or down key for less than 1 second to enter Manual Override mode.
■ Press up or down to change to your desired new temperature.
■ Press to RUN normal mode or wait 20 seconds for it to return automatically.
■ The current program number will flash to signify the Temporary Override. At the next program change, the Temporary Override is canceled, and the next program temperature becomes the setpoint temperature.
To end the Temporary Manual Override:
■ Press HOLD key thrice. This will return the set temperature to the current program set temperature.

NOTE: The Auto Season Changeover feature will operate while the thermostat is in Temporary Manual Override. Refer to the Auto Season Changeover feature for more information.

Permanent Override or a Designated Day Override

To hold your Manual Override for vacation or Until a Designated Day.
■ Press to make the current program temperature the HOLD temperature. "Permanent Hold" will be displayed on the LCD, and the Program number will disappear.
■ Follow the Temporary Manual Override instructions above to change the Permanent Manual Override temperature.
■ You can confirm the temperature by pressing for less than 1 second.
■ Press again. Hold day will be displayed on the LCD and the clock will disappear.
■ Press Day/Time key to adjust override days.
■ Follow the Permanent Override instructions above to change the Designated Day Manual Override temperature.

To end Override:

Under Permanent Override press the Hold key twice. Under a Designated Day Override press the Hold key once. The thermostat will return to the current program.

Auto Season Changeover

When the System Mode is in AUTO position, the thermostat will automatically change between Heating and Cooling systems, press UP/DOWN key to adjust the setpoint under the mode showed on the display (Heating/Cooling). Set temperature will be confirmed 3 seconds after finish your setting, and then thermostat will switch the opposite mode (Cooling/Heating) to set up the setpoint by same process, and then press "HOLD" key to exit and save temperature setting. We recommend keeping your programmed heating and cooling temperature at least 2°F (2°C) apart to allow the Auto Season Changeover to occur when the appropriate temperature span has been reached. There is a Designated Day Override or Permanent Override. However, these overrides are also energy saving settings. For example, you may have the following temperatures programmed at a given time: Heat Set Temp=68°F, Cool Set Temp=79°F. If the room temperature rises above 79°F, then the thermostat will automatically change to cool mode and turn on the air conditioner.
Likewise, the thermostat will automatically change to heat mode and turn on heat when the room temperature falls below 68°F.

Filter Monitor

Your thermostat also keeps a record of the number of days that your filter has been in use. This is the actual running time. To maximize your system's performance and energy efficiency, change or clean your filter regularly.
■ When the total fan run time reaches over 16-17 days (about 400 hours), you need clean or change your system's filter, "FILTER" will continue to display until the counter is reset to zero.
■ Press to review total filter usage.   "FILTER" displays with the total number usage in days.
■ To reset the Filter Monitor counter, press and hold the round button for 3 seconds when the filter monitor day shows. The display will blink, and the counter will be reset to zero.

Auto Recovery

Auto Recovery calculates how early to turn your system back on, so that the room temperature is already comfortable by the start of the comfort temperature program period. Auto Recovery works in both Heat and Cool modes.
■When the thermostat is in Auto Recovery mode, the display will alternate "RECO" with time, and the program indicator will flash.
■Auto Recovery can be disabled by menu setting.
■Auto Recovery will not operate if Permanent hold or Temporary hold is in operation.
■Auto Recovery can be canceled manually if HOLD is pressed during the recovery process.
■Auto Recovery will be canceled and change to the next period.

Keyboard lock

The keyboard can be locked to prevent unauthorized changes to the thermostat.
■To lock or unlock the keyboard, press and hold the Run key for 3 seconds.
The keyboard is locked when LOCK appears on the display.
■All keys are locked. Anytime a key is pressed, LOCK will appear on the screen for 1 second.
■To exit Lock mode press and hold the RUN key for 3 seconds.

Error Mode

If the thermostat is unable to control your system due to an unexpected problem, the thermostat may enter Error Mode. In this condition, the thermostat flashes "E1" on the LCD display, and shuts off your system. when the display show "E4" to warn, it must re-register again, "E4" will disappear after registration successed. You can set your thermostat back to the original channel to avoid re-registration.

LCD display	information	LCD display	information
E1	Sensor Error	E2	EEPROM Error
E4	Channel change without matching with controller		

NOTE:
1.Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment
2.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,
3.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.