

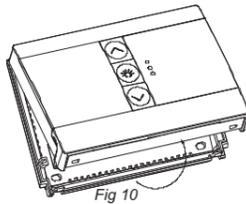
Installation Instructions

⚠ Note:

These instructions assume the installer of this thermostat has knowledge of Heating & Air conditioning systems, the terminology used in these systems and of the HVAC industry requirements.

It is an offence in Australia for unqualified persons to make any changes to Airconditioning systems. Failure to observe this may void equipment and thermostat warranty, property insurance and cause irreparable damage to the thermostat or equipment connected to it.

Remove the wall plate from the rear of the thermostat by pressing the release tabs on the top and bottom of the thermostat and swinging the base away. (Fig 10)



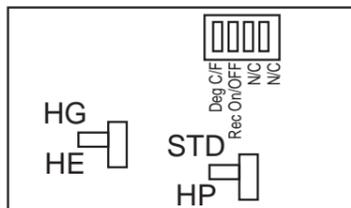
Position the wall plate on the wall and pull the wires through the large opening. Mount the wall plate with the supplied wall anchors or other suitable means, ensure the thermostat base is level to add to the appearance of the installation.

Referring to the supplied wiring diagrams, connect the system wires to the appropriate terminals on the thermostat base plate. Ensure the screws are tightened securely to prevent potential problems caused by loose connections. Push excessive wire length back into the wall cavity.

If the opening in the wall is large there may be a potential for a draft to blow through the wall cavity and onto the temperature sensor on the back of the thermostat. To ensure correct thermostat operation it is important to block this hole. Failure to do so may cause inaccurate or erratic system performance.

On the back of the 44-400 thermostat there are three clearly marked selector switches. These switches are used to select the temperature display format, deg C or deg F, the type of system the thermostat is controlling (heat pump or heat with add on cool), recovery mode and whether the fan is called by the thermostat HE (Heating Electric) or by the system HG (Heating Gas). These switch locations are shown in Fig 11. Adjust these switches to their correct position to suit the type of system controlled.

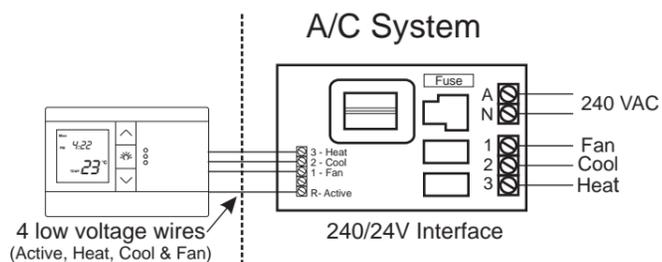
If you change any of these switch positions AFTER you have installed the batteries, you MUST press reset for the new switch settings to take effect.



Snap the two halves of the thermostat back together taking particular care to align the thermostat pins with the clips on the base plate of the thermostat and that the temperature sensing bead will not become crushed between the two case halves.

Test all thermostat modes by both raising the set temperature above the ambient temperature in heat mode and verifying correct heater operation. Next lower the set temperature to below the ambient temperature with the thermostat in Cool mode and verify the correct operation of the cooling equipment.

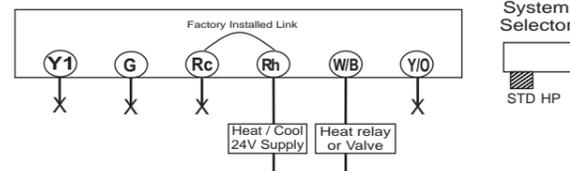
Please Note: The Smart Temp 44-400 thermostat is a low voltage thermostat only. Do NOT directly switch 240VAC equipment or damage will result. Should it be necessary to switch 240VAC equipment the optional Smart Pak 03N will be required. See fig 12 below.



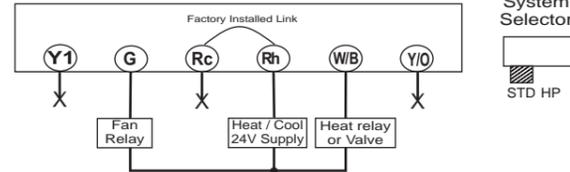
The Smart Temp 44-400 is a battery powered thermostat and does NOT require the use of a neutral. If this thermostat is replacing an existing A/C equipment powered thermostat, disregard the neutral wire.

Failure to heed this warning WILL result in thermostat damage.

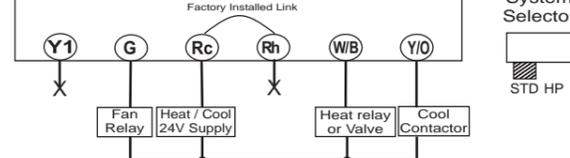
Two wire Heat only



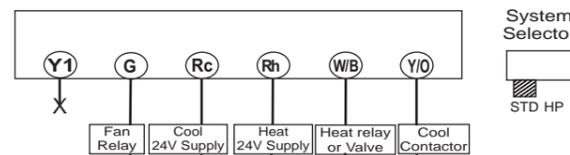
Three wire Heat only



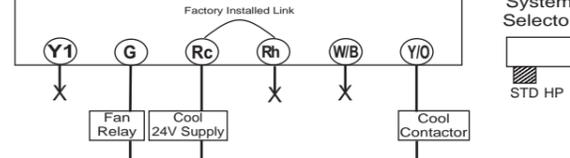
4 Wire Heat/Cool System



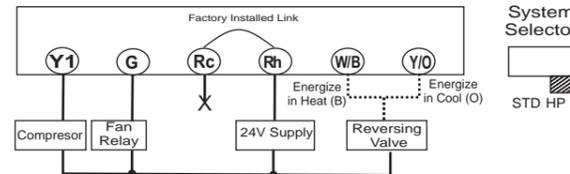
5 Wire Heat/Cool System



Three wire Cool only



Single Stage Heat Pump



www.thermostat.com.au



Due to continual product improvement these specifications are subject to change without notice.



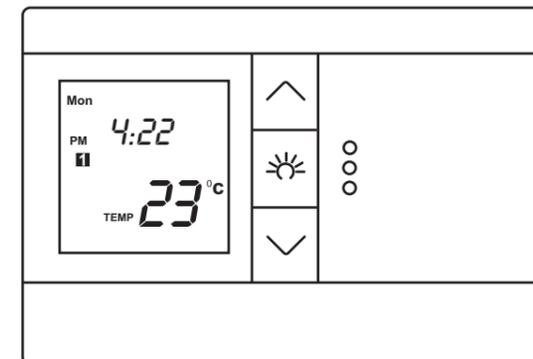
Model 44-400 Owners Manual



Congratulations on the purchase of your new Electronic Thermostat!

Your new Smart Temp thermostat has been built using the best components and design philosophy. As a result, if properly installed your new electronic programmable thermostat will provide you with years of trouble free and reliable service.

The Smart Temp 44-400 has been designed to be attractive, highly reliable and simple to use. Please take the time to read these simple instruction to familiarise yourself with the function and features offered in this product.



Operation

Great effort has gone into making the Smart Temp electronic thermostat an extremely simple thermostat to program and use. By reading and understanding these simple instruction, you will realise and use many of the features this thermostat has to offer.

Programming and set up of this product has been designed as a very methodical procedure. The same buttons (and sequence of buttons) are used to program and set up this product.

Setting The Clock

As the 44-400 thermostat is a programable thermostat, when you first place the batteries into the thermostat, (or after you have reset the thermostat) you must set the clock. This is essential as the 44-400 thermostat uses this clock to turn on the heating and cooling at the times that you request.

Setting the clock is a simple procedure that only requires a few key presses. When the batteries are first installed, the LCD will indicate the current room temperature and 12AM on the Clock as shown in Fig1.

In this example, lets set the clock for 2:16PM on Saturday.

Step 1

Press the **[DAYTIME]** button, the display will illuminate, the temperature indication will go blank and the hours digits will flash as in fig 2.



fig 2

Step 2

By pressing the **[▲]** or **[▼]** buttons, adjust the hours to read 2PM.

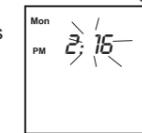


fig 3

Step 3

Press the **[DAYTIME]** button again. Now the minutes flash. Pressing the **[▲]** or **[▼]** will permit you to adjust the minutes to "16". (Fig 3)

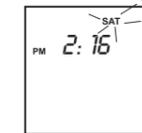


fig 4

Step 4

Press the **[DAYTIME]** button again. Now the day will flash as in fig 4. Press the **[▲]** or **[▼]** to adjust the day to read "Sat".

Step 5

Press the **[DAYTIME]** button again to return to normal mode. Alternatively by NOT pressing a button for 20 to 30 seconds the thermostat will automatically go back into normal mode. The clock is now set.

In this example, Pressing the **[DAYTIME]** button cycles through Hours, Minutes and Day. (Indicated by the flashing digit). By pressing the **[▲]** or **[▼]** button permits you to make adjustments to the flashing digit. This same principal is used through out the programming of this thermostat.

Programming the Thermostat.

The 44-400 is a "5+2" day programmable thermostat; 1 program group is for the 5 weekdays, 1 program group is for the weekend, hence the 5+2. Further to this, the 44-400 has 4 programs per day. What this means is that up to 4 times each day the thermostat will automatically change the temperature of the home.

As an example, in heating mode - just before you get out of bed in the morning you may want the home to heat to 20 Deg (Program 1). While you are at work you may not want your home to get any colder than 15 Deg (Program 2). Just before you arrive home at the end of the day you may wish the home to be at 21 deg (Program 3), and while you sleep at night you may want the home to be kept at a cosy 17 Deg (Program 4).

Programming this thermostat to follow your customised profile is no more difficult than setting the clock. By tapping the program button the thermostat will step between Hours, Minutes and Temperature for Program 1. By continuing to tap the program button it will continue to cycle through Hours, Minutes and Temperature for Program 2. Then Hours Minutes and Temperature for Program 3 etc.

Again, after 20 to 30 seconds of NOT pressing a button the thermostat will return to normal mode.

Step 1

Use the **[HEAT OFF COOL]** switch to select either heating mode or cooling mode.

(Please note: This thermostat is capable of controlling both a Heating & Cooling system. The use of this thermostat does not indicate that your home or office has a Heating AND Cooling system installed)

Step 2

Press the **[PROGRAM]** button. Program "1" indicator as well as the Weekdays will be displayed. The "HOURS" and AM or PM on the LCD will flash. (See fig 5) Press the **[▲]** or **[▼]** button to adjust the hour to the time you wish the first program to start.

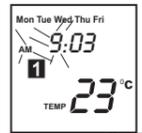


fig 5

Step 3

Press the **[PROGRAM]** button again. Now the minutes will flash for program "1". Press the **[▲]** or **[▼]** button to adjust the minutes to the time you wish the first program to start.

Step 4

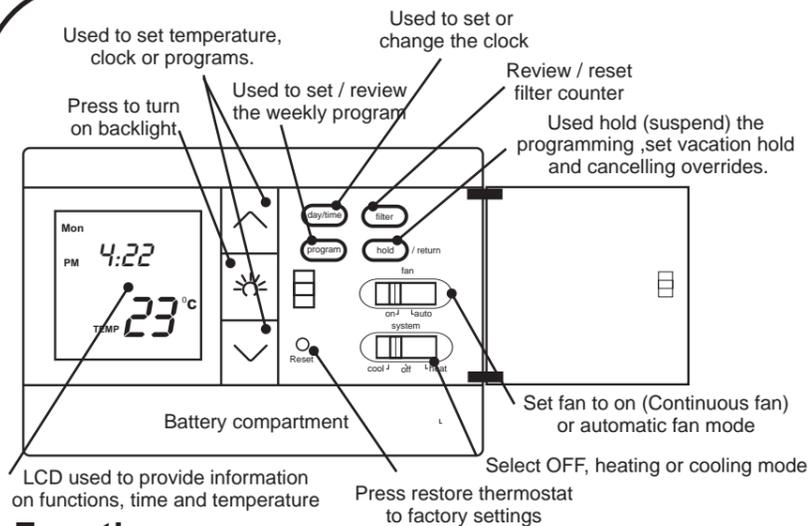
Press the **[PROGRAM]** button again. Now the Temperature for program "1" will flash. Again, by pressing the **[▲]** or **[▼]** buttons you can adjust the desired temperature you require for program "1"

Pressing the program button again simply repeats the above procedure for Programs 2, 3 & 4 for the weekdays, then the 4 weekend programs (indicated by "Sat" & "Sun" in the LCD).

Tip.

If you only require 2 or 3 programs per day, simply set the un-required programs to the same value as a used program. For example, should you only require 2 programs for the weekend (wake at 7:00am at 20 deg and Sleep at 11:00pm at 17Deg. Simply set program 1, 2 & 3 for 7:00 am at 20Deg and program 4 for 11:00pm at 17Deg. This way, at 7:00 the thermostat will move straight to program 3, and stay in program 3 until 11:00 pm (program 4 start time)

To adjust the Cooling program. Repeat the above procedure with the **[HEAT OFF COOL]** switch in the "Cool" position.



Functions

The Smart Temp 44-400 has three override modes. These are very useful should you wish to make changes to the set temperature without completely reprogramming the thermostat.

The three override modes are described below.

Temporary Override

In this mode, the override temperature change will only last until the NEXT program starts, hence it being called a "temporary override." For example, you might use this type of override when you want the home to be a little warmer (or cooler) to accommodate a dinner guest. Adjusting the evening program (program 3) will only last until the sleep program (program 4) begins later that night, or until it is manually canceled as described below.

To make a Temporary Temperature Override.

Press and hold the or button to change the LCD display to indicate the "SET" or desired temperature. After approximately 1 second, the display will blink once to indicate the temperature can now be adjusted. Press and hold the or button to adjust the set temperature to your new desired value. You will note that the Program indicator in the LCD now flashes to indicate that a temporary temperature override is now active.

Permanent Override.

The Smart Temp 44-400 permits the permanent override of all temperatures and programs with a simple button press. This may be useful when you go on holidays and not wish to let the home cool below at 12 deg C, 24 hours per day, 7 days per week. Another common use of the permanent override is for those that may not wish to use the Smart Temp 44-400 thermostat as a programmable thermostat, and use it in a "manual thermostat mode", In this way you can select a desired permanent temperature and by using the switch turn the thermostat off or on manually as desired.

To make a permanent Temperature Override.

Should you wish to set a permanent temperature and override all program and clock functions first select heating or cooling mode using the switch. Next, using the or buttons select the desired temperature. To lock this temperature permanently simply press the button once. The thermostat will indicate "HOLD" in the LCD confirming the permanently hold function is active. It is then a simple matter to turn the thermostat off and on at the held temperature using the .

Default Program

Note: All seven days have the same values

Program Number	Time	Temperature Deg C	Heat	Cool
1	6:00 AM	20 C	20 C	26 C
2	8:00 AM	16 C	29 C	26 C
3	4:00PM	20 C	26 C	28 C
4	10:00 PM	16 C	16 C	28 C

Fill out this table below with your settings

Heat mode				
Day	Program 1	Program 2	Program 3	Program 4
Monday to Friday	Time Temp	Time Temp	Time Temp	Time Temp
Saturday & Sunday	Time Temp	Time Temp	Time Temp	Time Temp
Cool mode				
Day	Program 1	Program 2	Program 3	Program 4
Monday to Friday	Time Temp	Time Temp	Time Temp	Time Temp
Saturday & Sunday	Time Temp	Time Temp	Time Temp	Time Temp

To set a Holiday period Temperature Override.

Should it be desirable, you can set a permanent temperature override that will automatically cancel itself in a given number of days. For example, you may be going on holiday for 14 days and would like the home to be warm or cool to greet you when you return.

To set the Holiday override first select either heating or cooling mode with the switch. Next, using the or button set your desired temperature. Now, press the button twice to set the "holiday override mode".

The LCD will look like the example shown in fig 6.



Tapping the button the LCD will increase the counter to show the number of days until the holiday override expires and normal thermostat operation begins. If you set too many days, pressing the button will permit you to reduce the day counter.

To cancel an active Override

When you no longer require a temperature override and wish to resume normal thermostat operation simply tap the button until the LCD no longer shows the word "Hold". The 44-400 will now alter the homes temperature automatically according to your programmed schedule.

12 or 24 Hour Clock

The 44-400 thermostat is able to display the time in the conventional 12 hour "AM / PM" or the 24 Hour time format. To change the time format press the button then the button to toggle the time format.

Low Battery Warning

Your Smart Temp 44-400 is fitted with a two stage low battery warning. When the batteries are first detected to be weak the first stage Low battery warning will be indicated by the low battery symbol in the LCD. (See fig 7a). It is important to replace the batteries with **Alkaline** "AA" batteries when this symbol is flashing. When the batteries become too weak to maintain normal thermostat operation the thermostat enters the second stage low battery warning (fig 7b) which shuts the thermostat down.



During a battery replacement process you have approximately 2 to 5 minutes once the batteries are removed to place fresh alkaline batteries in the thermostat before program data is lost.

Please note: the back light function is suspended when the low battery indicator is on.

Auto Recovery Mode

Your 44-400 thermostat has the ability to use advanced energy management techniques if activated by your installer. Auto Recovery mode will calculate the most energy efficient time to control your heating or cooling system to ensure your ideal programmed comfort temperature is reached by your programmed start time.

When your thermostat is in recovery mode the LCD will alternate between the word "RECO" and the current time, See fig 8.

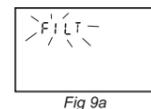


Notes on recovery mode

- Recovery mode is enabled / disabled by a switch marked "recovery" on the inside of the thermostat. This is normally set by the installer.
- Recovery mode will not operate if the LCD shows the word "HOLD"
- The Recovery function can be cancelled by pressing the button. The recovery mode will then be transferred to the next scheduled event.

Filter Change Indicator

To ensure your heating and cooling system is operating at peak performance, your 44-400 thermostat monitors the total time your heating & cooling system has been running. When 400 hours of run time has elapsed the word "FILT" will be alternatively displayed with the clock on the LCD to remind you to clean or replace your return air filter (if fitted) see fig 9a.



To review the total filter time

Press the button to review the total filter time. In the example shown the filter has been used for 232 hours and 19 minutes. Fig 9b.

To reset the counter and cancel the filter warning press the button to show the filter monitor, while it is showing this press the button again for 5 seconds to reset the counter to 000 .



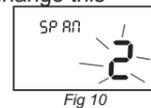
Backlighting.

The 44-400 is fitted with an electro-luminescent back light. When any key is pressed the back light will turn on and remain on for 8 seconds after the last button has been pressed. If ambient noise level is very low you may hear a high pitch noise when the back light is on. This is normal and is there is no cause for concern.

When the thermostat battery is low, the back light function is suspended. Replace the batteries with 2 "AA" **alkaline** only.

Span Setting

For the best compromise of energy management and comfort your 44-400 will control your heating and cooling to within 1 deg C of your set temperature in both heating and cooling modes (Span 2). In all but the most unusual circumstances you should find this setting is adequate. Should it be required, you can change this factory default value to widen or tighten the control tolerance by pressing both the and together and choosing an alternate setting. (Fig 10)



Span 1 will maintain your room temperature very close to your set temperature by turning your heating or cooling system on and off at relatively short intervals. This is the least energy efficient setting.

Span 2 - factory default setting.

Span 3 will permit your room temperature to vary slightly from your set temperature by delaying the start of your heating or cooling system and running it longer. This is the most energy efficient setting.

Note: When your thermostat is re-set, the factory default value of Span 2 will be restored.

Troubleshooting

No Display.

- Check batteries.
- Reset thermostat by removing batteries and pressing any button - replace batteries.

Display Dims.

- Replace Batteries.

No Back light

- Replace Batteries.

Program does not appear to be operating correctly.

- Check the time is set properly, note the AM / PM indicator.
- Check that the thermostat is NOT in Hold mode.
- Check that the thermostat shows the correct day.
- Ensure the Heat/Off/Cool switch is not OFF.

Heating or Cooling does not turn On.

- Check that the function switch is in the correct position.
- Some systems require a 4 minute delay before starting.
- Check circuit breakers (fuses) to equipment.
- Make sure pilot light (if applicable) on heater is lit.
- Replace Batteries in thermostat.

Erratic Display.

- Replace batteries.

Thermostat permanently displays "HI", "LO" or "Err".

- Replace Batteries and reset.
- Replace thermostat.

Thermostat continues to heat regardless of room and set temperature when Heat / Off / Cool switch is in heat position.

- Thermostat set by installer to HP mode - set to STD
- Wiring fault - check for short between Rh & W terminal
- Thermostat battery failure - replace batteries
- Thermostat fault - press reset button

Thermostat displays temperature in deg F

- Change deg C/F selector to C position then press reset.

Thermostat displays RECV and starts before schedule start time.

- Recovery mode has been enabled.

Thermostat runs all night (or when you expect it to be off)

- Program the temperature for the events where you want the thermostat to be off to heat=7c and cool=35c

Specifications

Systems Controlled	Gas / Oil / Hydronic Heating Electric Cooling Single Stage Heat Pump
Switching Voltage Resolution	Millivolt to 24VAC @ 2amps max
Programming	1 deg C (Heating & Cooling)
Accuracy	5+2 Day - 4 events per day +/- 0.5C
Control Range	7 to 35C
Display Range	0 to 37C
Compressor delay protection	Heat / Cool - 4 mins on cool only Heat pump - 4 mins on Heat & Cool
Holiday Delay	1 to 255 days (adjustable)
Filter Warning	400 Hours (non adjustable)
Size	140 x 93 x 25mm
Battery life	12 to 15 months (Alkaline only)
Warranty	1 year, return to base.

For technical support please contact Smart Temp Australia P/L or an authorised sales / service agent.