

24 Volt Multistage Heat / Cool & Heat Pump thermostat  
 1 Speed "Smart Fan" Fan Control  
 Auto Changeover - 7 day Start Stop Programmable

### Congratulations on the purchase of your new Electronic Thermostat!

Your new Smart Temp SMT - 310 thermostat has been built using the best components and design philosophy. As a consequence of this, if properly installed your new electronic programmable thermostat will provide you with many years of trouble free and reliable service.

The Smart Temp SMT has been designed to be attractive, highly reliably 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.



### To turn the System On & Off

Tap the On/Off button to turn the SMT 310 on, Press and hold the On/Off button for 5 seconds to turn the SMT 310 off. The LCD will Show the word "ON" or "OFF" to reflect the current mode. When OFF, there will be no heating or cooling system control regardless of the room temperature. When On the SMT 310 will run its pre set schedules as described below.

When ON, the SMT 310 will control your room temperature to your desired set points only while displaying the word "START" in the LCD. When the word "STOP" is shown there the thermostat will not control the Air conditioning system regardless of the room temperature.

### Setting The Desired Temperature

When ever you Tap the Temp "+" or Temp "-" buttons the SMT will LCD will flash and show the word "COOL" and the current "COOLING" Set temperature (the value you wish the cooling to commence at). This value can be adjusted with the Temp "+" and Temp "-" button. After a few seconds the SMT display will change and show the word "HEAT" and the current Heating Set temperature (the value you wish the heating to commence at). This value can be adjusted with the Temp "+" and Temp "-" button. After a few seconds the LCD will stop flashing. Your heating and cooling values are now set .



Diag 1

### Programming your SMT Automatic Start & Stop times

Your SMT-310 thermostat will automatically turn the heating and cooling system On & Off at the times you require and control the room temperature to your previously set comfort levels.

Programming the SMT "Start" and "Stop" times is an extremely simple process and requires the use of the "Prog" button (used to start the Programming process and advance through the various steps) and the Temp "+" and "-" buttons to adjust the necessary Start & Stop times for the 7 days.

### Setting the Clock

**Note:** Your SMT thermostat will automatically resume normal function if there are no buttons pressed for approximately 30 seconds. It is recommended that once you start to programme your SMT that you do not pause or you may have to commence the programming procedure from the beginning.

**Step 1:** Press the "Prog" button once and the display will change as in Diag 1. The word "CLOCK" will show (to indicate that we are now setting the real time clock to the current time and day). The hour will be flashing to indicate that this value can be adjusted if necessary by using the "+" & "-" buttons. Set the hours value to the correct time.

**Step 2:** Press the "Prog" button again and now the minutes display will flash indicating that if necessary the minutes value can be adjusted by using the "+" & "-" buttons. Set the minutes value to the correct time.

**Step 3:** Press the "Prog" button again and now the Day display will flash indicating that if necessary the current Day can be adjusted with the "+" & "-" buttons. Set the Day value.

The Real time clock was just set using just 3 buttons. The "Prog" button to advance us through the programming process, and the Temp "+" and Temp "-" buttons to adjust the value that was flashing to a new value.

Programming the SMT to automatically adjust the Start & Stop time is as equally a simple process. Simply press the "Prog" button to select the value that requires adjustment (if necessary) and then the "+" & "-" buttons to adjust flashing digit to the desired value.

### Setting the Program

**Step 1:** If you have not just set the clock or do not need to set the clock - press the "Prog" button 3 times to move past the "Clock" set section of the programming procedure (Being the Hours, minutes and day adjustments).

**Step 2:** The SMT display will be as shown in Diag 2 indicating that this "Start" Hour adjustment for Monday (as indicated by the Hour segments flashing) as well as the Mo (Monday) display being shown. Pressing the "+" or "-" button adjust the hours that you wish the Monday Start time to commence.



Diag 2

**Step 3:** Press the "Prog" button again and now the Minutes segments will be flashing, indicating this is the adjustment for minutes for the "Start" program for Mo (Monday). By pressing the "+" or "-" button adjust the minutes to time that you wish the "Start" time to commence.

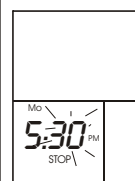
**Step 4:** Again pressing the "Prog" button will advance you to, setting the "Stop" time Hours for MO (Monday). That is, the time you wish the Air Conditioning System to shut down on Monday. Again, by using the "+" & "-" buttons this value can be set.



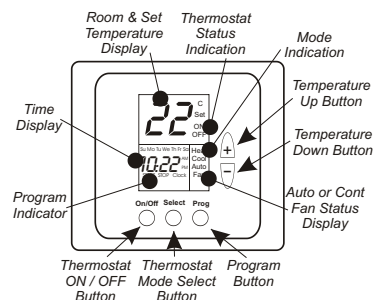
Diag 3

**Step 5:** Pressing the "Prog" button again, the SMT will permit adjustment for the Monday "STOP" Minutes Adjustment of this value is done with the "+" or "-" buttons - Diag 4.

The remainder of the programming process is completed by simply repeating this procedure, pressing the "Prog" button to advances you through Hours & Minutes for Tuesday "Start, then, Hours & minutes for Tuesdays "STOP" etc.



Diag 4



### Specifications

Control Range:	5° to 30°c.
Set points:	1 heat 1 Cool
Override Time:	2 hours (Fixed)
Resolution:	1.0°c
Program Type:	Individual - 7 day start / stop
Default Program:	Mon ~ Fri Start 8:00am Stop 6:00pm. Sat ~ Sun Start 8:00am - Stop 8:00am (off)
Temp Cont Limits:	Adjustable (Default Cool 5 - Heat 30°c)
Fan Control:	Smart Fan* or Auto fan
Back light:	Electro luminescent (5 sec)
Accuracy:	0.3°c
Calibration:	+/- 3°c (Default 0°c)
Max Load rating:	3 Amps.
Load per relay:	1 Amp resistive @ 24v.(40v max)
Memory Backup:	14 hours
Voltage:	24VAC +/- 20%.
Connectors:	Screw type.
Material:	PC/ABS
Size:	80 x 90 x 22mm
Weight:	145g
Warranty:	1 years RTB

\*Smart Fan runs the fan continuously between the "Start" & "Stop" programs

## Understanding the Mode of Operation

Your SMT thermostat will automatically control your Heating system, your cooling system and the fan for the heating and cooling system.

Most users will prefer to let the SMT operate fully automatically, switching between heating and cooling modes to maintain the comfort levels you have previously set. Some uses however may wish to manually switch between heating and cooling modes.

By using the "Select" button, the various operational modes such as Heating only or Cooling only or Auto mod can be simply adjusted.

The various modes are described below

### To Adjust the Set (or desired) Room Temperature

When no buttons are pressed, the LCD indicates the current room temperature. When the up (+) or down (-) buttons is first pressed the LCD will flash rapidly and indicate the Set (or desired) room temperature. The word "SET" will also be displayed in the LCD to confirm the set temperature is being adjusted.

**Heat Only Mode:** In heat mode, the thermostat will only activate the system heating when the room temperature falls below the set (or desired) room temperature. Heat will be displayed in the LCD to indicate this mode is set. When the SMT is calling for the system to heat, the word "HEAT" will flash slowly in the LCD. In this mode, the SMT will not turn on the cooling system regardless of how warm the room becomes.

**Cool Only Mode:** In cool mode the thermostat will only activate the system cooling when the room temperature raises above the set (or desired) temperature. Cool will be displayed in the LCD. When the SMT is calling for the system to cool, the word "COOL" will flash slowly in the LCD. In this mode, the SMT will not turn on the heating system regardless of how cool the room becomes.

**Auto Season Change over Mode:** In Auto mode the thermostat will automatically activate the system heating or cooling to maintain the set (or desired) heating and cooling temperatures. The LCD will indicate Auto Season Mode by displaying both "Heat & Cool" in the LCD. When the SMT is calling for the system to heat or cool the appropriate word will flash slowly in the LCD.

**Fan only Mode:** In fan only mode the SMT will only run the system fan regardless of the set and room temperature. The SMT will not attempt to control the Air Conditioning System heating or cooling functions. Fan only mode is typically used to improve building ventilation and not to control room temperature.

### Continuous Fan Mode

In Continuous Fan mode the system fan will run continuously when the Start time has been reached, and remain running until the Stop time is reached. Unlike the Fan only mode described above the SMT will also control the room temperature as dictated by the Heating, Cooling or Auto modes set above. The SMT will indicate that this mode is active by displaying the word "Fan" in the LCD.

### Auto Fan Mode

In Auto Fan mode the SMT will only turn on the system fan on when there is a call for system heating or cooling and off again when the room is at the desired temperature. The LCD will indicate that this mode is active by displaying the words "Auto Fan" in the LCD.

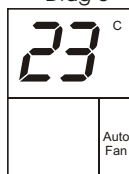
## Setting the Mode of Operation

Like the programming steps previously explained, adjusting the various operational modes are accomplished equally as simply and with a minimum of button presses.

**Step 1:** Pressing the "Select Button" once will enter the mode selection menu. The LCD will look similar that shown in Diag 5. Pressing the "+" or "-" buttons will permit you to toggle between Fan only mode, cool only mode, Heat only mode or Auto Mode ( Heat/Cool Displayed).

**Step 2:** Pressing the "Select Button" again will permit you to select either Fan or Auto Fan modes with the "+" & "-" buttons. Diag 6 shows a typical LCD.

Pressing the "select" button again returns the SMT to normal mode. The new settings will now take effect.



## Advanced Functions

### After Hours 2 Hour Timer

The SMT-310 has an inbuilt after hours timer fitted, tapping the On/Off button will activate the 2 Hour after hours run on time period. When the timer is active, the word "STOP" will slowly flash in the LCD to indicate this function is set.

### Key Board Lock

Your SMT-310 has the ability to lock the keyboard from an authorised tampering. Pressing and holding the mode button for 15-20 seconds will result in the SMT LCD to show the word "UNLOC". Continuing to hold the mode button will change this to read "LOC". At this stage the thermostat key board will be locked ( EXCEPT the ability to activate run on timer). To unlock repeat this process.

### Manual Mode

Pressing and Holding the PROG button for 20 seconds will toggle the SMT-310 between Programmable mode (as previously described) and Manual Mode (No time clock control)

## Advanced Installer Functions

The SMT-310 also has a number of software options that can be set by accessing the installer menu. To enter the installer menu set the HEATING temperature to 10c and then press and hold the select button for 10 seconds.

### Temperature Control limits

Once in the installer menu the LCD will change and show the word "COOL" and a number, such as "COOL 05" (default). This is a control value that overrides the user set temperature and is the lowest temperature the thermostat will control too. Adjust this value if necessary with the temp + or - buttons. Tap the select button and now the LCD will change and display the word "HEAT" and a number, such as "HEAT 30" (default). This is a control value that overrides the user set temperature and is the Highest temperature the thermostat will control too. Adjust this value if necessary with the temp + or - buttons.

(For example, by setting a COOL value of 19, and a HEAT value of 24 regardless of where the user sets there preferred heating and cooling set temperatures, the SMT will limit the control range of the Air Conditioning system to between 19 & 24c). Tap the select button again to move to the next option.

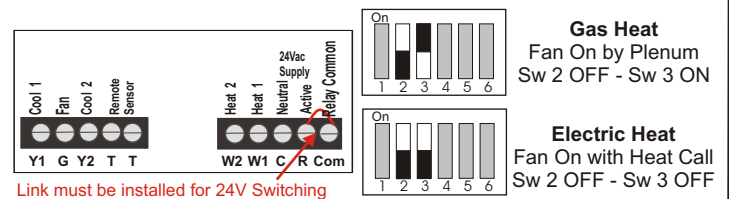
### Calibration Offset

Once you have set the temperature control limits above (if required), the next option permits the adjustment (calibration) of the temperature sensor. The LCD will show "OFFS 0" (default). This value can be adjusted +/- 3c. Permitting you to add or subtract up to 6 deg from the temperature sensor. Tap the select button to exit this menu.

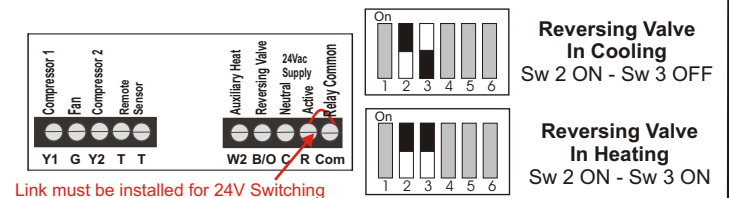
## Wiring Diagrams and Dip Switch Configuration

**NOTE:** Black Denotes Switch Position. Switches shown in grey do not apply to the function described

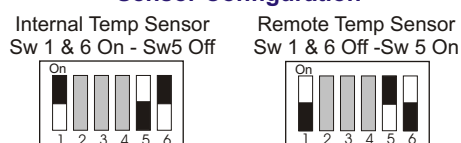
### Heat Cool Connection



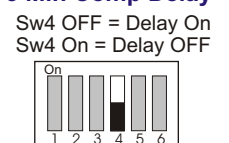
### Heat Pump Connection



### Sensor Configuration



### 3 Min Comp Delay



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