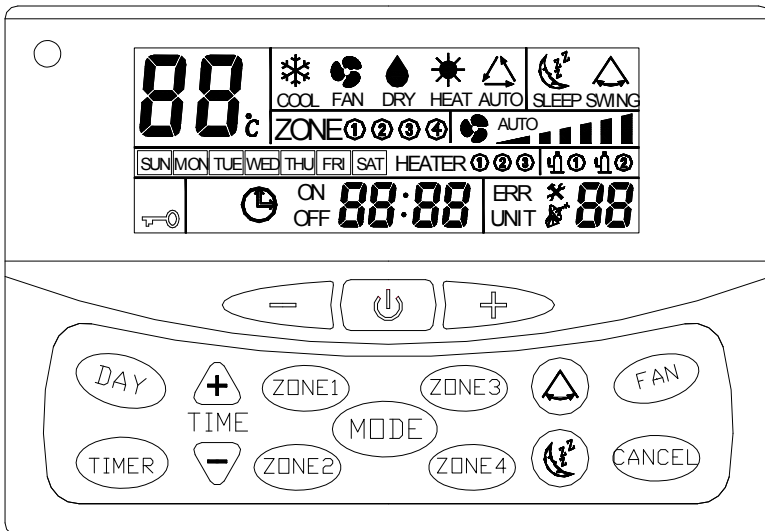




SAT-2 Thermostat



USER'S OPERATING INSTRUCTIONS



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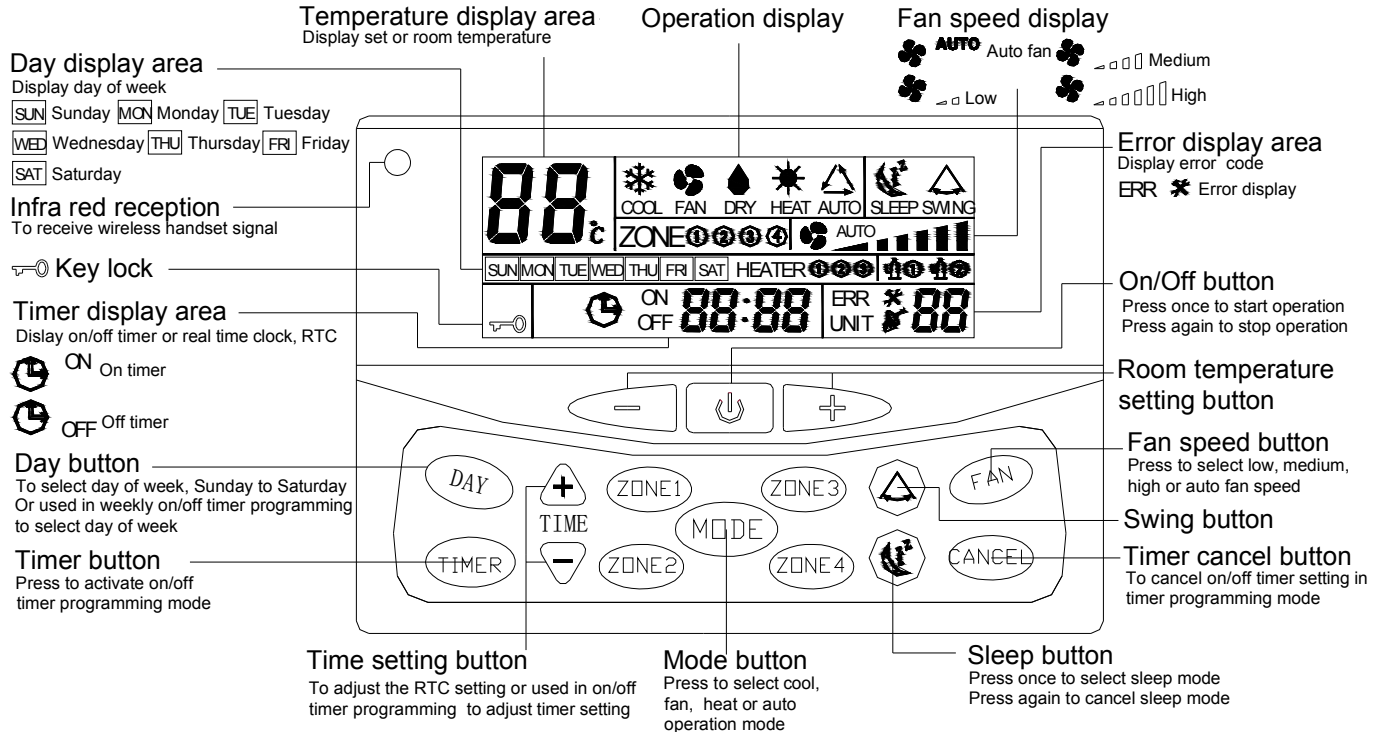
Introduction

Your **temperzone** air conditioner is supplied with a SAT-2 wall thermostat. This thermostat has been designed to maintain a high level of comfort for room occupants. Emphasis has been placed on providing controls that are easy to use despite the sophisticated microprocessor system that runs it. Use of the Auto and Timer function settings allows you “to set it and forget it”.

Features Summary

- Cool/Fan modes.
- Heat/Auto modes (Reverse Cycle Systems only).
- Backlighting display with different colour indicating different mode of operations.
- Auto/High/Medium/Low fan speed selection.
- Temperature setting range from 16°C to 30°C.
- Room temperature display.
- Real time clock.
- 7 days programmable (Start/Stop) timer that programs the unit to two start/stop sessions per day.
- Bypass function enables user to bypass the on/off button and any user programmed times for immediate operation of the air conditioner.
- Battery backup. In the event of a power failure a backup battery will maintain the real time clock and the integrity of the control's data. When power is resumed (returned/switched on again), the unit will automatically restart using the last settings.
- Key lock function prevents unauthorized personnel from changing the settings of the wall thermostat.
- Sleep function.
- Air swing function.
- Zone control (option).
- Buzzer beeping to acknowledge valid key entry or wireless remote handset reception.
- Infra red remote controller (option).

Display



Operation

On/Off

Starting Operation

When the unit is turned off, press the  button. The backlight and the system are turned on.



Bypass Operation

To activate the air conditioner outside any pre-set times, follow the instructions in page 7.

Stopping Operation

When the unit is turned on, press the  button. The system is turned off.

Room Temperature Adjustment


Normally the display will show the current room temperature (not the preset temperature). Set the temperature of your choice by pressing the  or  buttons. The preset temperature will appear.

Each push will change the temperature by 1°C.

Temperature can set within the range 16°C – 30°C.

During Fan mode, the temperature can not be set.

Mode Selection

Press the  button to switch operation between Cool, Fan, Heat and Auto. The display shows which mode is selected at any one time.

Cool – If the room temperature is too warm, the air conditioner cools the room until it reaches the set temperature.

Heat – If the room temperature is too cool, the air conditioner warms the room until it reaches the set temperature (reverse cycle systems only).

Auto – The air conditioner will automatically cool or heat the room until it reaches the set temperature (reverse cycle systems only).

Fan – If the atmosphere in the room is stale, use this mode to circulate the air in the room, without changing the overall room temperature.

Fan Speed Selection

Press  button to select Auto, High, Medium or Low speed.

Auto – The SAT-2 will automatically select the most suitable fan speed to maintain set temperature.

High, Medium, Low – A choice of three manually selected fan speeds are available.






Swing Activation

This function is only applicable to systems with underceiling indoor units.

Press **SWING** button to activate the air louvre sweep function, or to set the louvre at a preferred angle.

Time Functions








Setting Clock

- Press  or  button to enter clock set mode, clock symbol  flashes.
- Press  or  button to increase or decrease the clock setting in 1 minute. Hold down the button to change the setting at a faster speed.
- Press **DAY** button to change the set day.

Setting 7 Day Timer

The timer can be set to turn on and off, two sessions per day, and one regular session per week.

On or Off Timer Setting

- Press **TIMER** button to select on timer or off timer. If on timer is selected, **ON** symbol and set day flashing. If off timer is selected, **OFF** symbol and set day flashing.
- There are 2 sessions of on or off timer available per day. Press  or  button to select session 1 (P1) or session 2 (P2). The selected session is indicated on the temperature display area as P1 or P2.
- Press **DAY** button to change the set day of the on or off timer.
- If the selected timer for the set day is empty, timer display area shows $\triangle \circ \triangle \triangle$, otherwise the on or off timer setting will be shown.
 or 
- Press  or  button to change the on or off timer setting. Hold down the button to change the setting at a faster speed.
- Symbol  lights up to indicate there is on or off timer being set.
- Press **CANCEL** key to cancel the current on or off timer being set, timer display area shows $\triangle \circ \triangle \triangle$.
- Repeat step a) to e) until the desired timer for each session and each day have been set.
- System will save and exit timer settings 6 seconds after last key press.
- In non timer set mode, hold down **CANCEL** key for 5 seconds will cancel all the on or off or override timer being set.

Example:

Two sessions of on and off timer per day being set as follow:


P1 on timer	0800
P1 off timer	1200
P2 on timer	1300
P2 off timer	1700

If current time is 0730 hrs, it will remain as last state. At 0800 hrs, it will turn on the unit using P1 on timer. At 1200 hrs, it will turn off the unit using P1 off timer. At 1300 hrs, it will turn on the unit using P2 on timer. At 1700 hrs, it will turn off the unit using P2 off timer.

Pressing on/off button to on/off the unit will bypass the control of current event. The second event will take over upon expiry of current event.


Example: If user turns off the unit at 1000 hrs, it will remain off until 1300 hrs, at which time control is taken over by timer P2.


Sleep Activation

Press  button to activate the sleep option. This option saves energy by altering the set temperature over a two hours period.

Example uses:

In Summer, before going to bed at night with the cool mode set, pressing the

 button gradually raises the set temperature by 2 degrees to compensate for a person's lower metabolism when sleeping.

In Winter, with the heat mode set, pressing the  button gradually lower the set temperature by 3 degrees to compensate for heavier winter bedding.

The sleep option is only available for Cool, Heat and Auto modes.

Zone Control (option)

If your air conditioning installation has zones installed (i.e. dampers), select the zones to be turned on using the appropriate Zone button. Zone 1 is always assigned as master zone. Each zone can be individually turned on or off. However, zone 1 can only be turned off provided there are two other zones turned on.

Key Lock

This feature protects the control being tampered with by children or unauthorized persons.








TIME




To activate, hold down  and  buttons for 3 seconds, key lock symbol  will light up.

When the key lock is active,





-  button can be used to on or off the system.
-  button can be used to program the Bypass timer (refer below).
-  can be used to cancel the Bypass timer.
- Other buttons are ignored.

To cancel the key lock, hold down  and  buttons for 3 seconds, key lock symbol  will no longer be displayed.

Bypass


This feature provides a quick 'on demand' alternative to the 'pre-programmed' type of use. Bypass operation permits the user to start the air conditioner immediately, bypassing the  button and any programmed session times.

Bypass is initiated by,

- Hold down  button for 3 seconds,  will be shown at the temperature display area. Letter "H" indicates hour setting.
- Press  button once for one operation, twice for 2 hours and 3 times for 4 hours operation. Further key press will revert to 1 hour, 2 hours, 4 hours and repeats.
- Press  button will cancel the bypass timer setting.
- System will exit from bypass setting 3 seconds after last key press.

If Bypass timer is set, the display will alternate between temperature and number of countdown hours left, e.g. 2H and the room temperature. Upon Bypass timer countdown reaching zero:

- If the On or Off timer settings are nil, system will switch off
- If there is On or Off timer available, the unit will continue to operate if the time span of the On or Off timer allows it to be on. At an undefined region or off time span, the unit will switch off.

To terminate the bypass timer before chosen time has finished, press  button to cancel the setting and turn off the air conditioner.

Buzzer

Buzzer beeps in response to a valid button press or wireless signal reception. It beeps twice when the system is turned on, otherwise beeps once to all other valid acknowledgements.

Backlight

Backlight colour changes according to the operating mode setting.

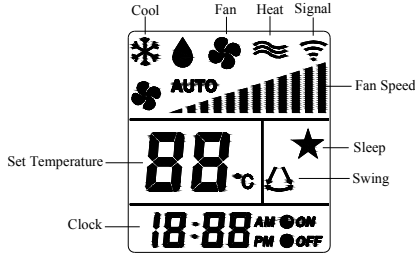
Operating Mode	Backlight Colour
Cool	Blue
Fan	Yellow
Heat	Reddish orange
Auto	Light violet

- The colour changes to red whenever there is system fault. Whenever the fault is cleared, backlight colour will return to original.
- If the unit is on, backlight will turn off 30 seconds after the last button press.
- If the unit is off, any button press will turn on the backlight and the screen display. The backlight will turn off 10 seconds after last button press. Once the backlight is turned on, setting can be done the same way as when the system is on.

Remote Control (option)

Operation

A beep will sound when the wall plaque receives a signal from the hand held infra red remote control. The IR remote control must be pointed directly at the SAT-2 wall thermostat plaque in order for its signal to be received.

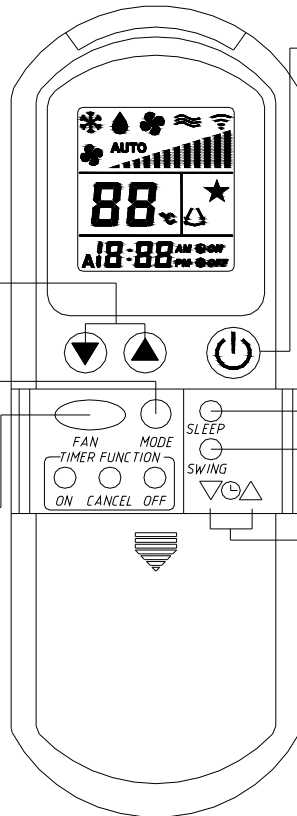


Adjust Set Temperature
Press down or up button to decrease or increase the desired room temperature.
Note: A temperature can not be set in Fan mode.

Mode
Press this button will advance the mode in the following sequence:
Cool → Fan → Heat → Auto

Fan
Press this button will advance the fan speed as follows:
Auto → Low → Medium → High

Under Fan mode, only low, medium and high are available.



On/Off
Press to switch on or off the air conditioner.

Sleep
Press to activate the energy saving Sleep function which automatically adjusts the temperature to provide a more comfortable sleep, ie for use in bedrooms.

Swing
Press to activate or deactivate the air louver sweep function. (NB This function is only applicable to systems with under ceiling indoor units).

Clock
Press down or up button for 2 seconds to activate. The current clock setting will decrease or increase at 1 minute intervals on each press.
The speed of interval updating increases after 4 seconds of continuous key press. It will update at high speed after 6 seconds of continuous key press.


Error Code Display

- Should there be any fault happen with the main board, the relevant error code will be shown on the error display area and symbol **ERR ✖** will light up.
- If there are multiple faults happening at the same time, the error codes will be shown one after another.
- The error codes are:

Fault	Error code	Remarks
Room sensor #1 failure	1	Main board AD3
Room sensor #2 /LST sensor #2 failure	2	Main board AD4
Room sensor #3 /Indoor coil sensor #2 failure	3	Main board AD5
Room sensor #4 /Discharge sensor #1 failure	4	Main board AD6
#1 indoor coil sensor failure	5	Main board AD1
#1 LST sensor failure	6	Main board AD2
#1 insufficient of refrigerant	7	
#1 compressor overload	8	
low pressure failure	9	
high pressure failure	10	
Room sensor #5 failure	11	At wallpad B
Room sensor #6 failure	12	At wallpad A
All room sensor failure	13	
Float switch failure	14	
#1 Low safety thermostat failure	15	
Communication failure	16	
Hydronic pump switch failure	17	
#2 insufficient of refrigerant	18	
#2 compressor overload	19	
#2 Low safety thermostat failure	20	
Discharge sensor 1 failure	21	
Discharge sensor 2 failure	22	
Discharge temp 1 failure	23	
Discharge temp 2 failure	24	

Troubleshooting

Air Conditioner Doesn't Operate

1. Check there is power to the air conditioner. There is no power if the SAT-2's screen is blank.
2. Check the SAT-2 is on, i.e. the LCD display is on.
3. Check if symbol  is displayed. If so, checked that you are in the 'switch on' period, or alter the timer settings (refer to page 6).

Reduced Cooling or Heating

1. Check the SAT-2 is not in the SLEEP mode (refer to page 6).
2. Check to see if the air filter (if any) requires cleaning.
3. Check if any doors or windows are opened.
4. Check that there are no obstacles in front of the outdoor unit.

No Cooling or Heating

Check that the correct operating mode has been selected (Auto, Cool, Heat). The preset temperature may have been set too high or too low. If the set temperature appears okay, call for service.

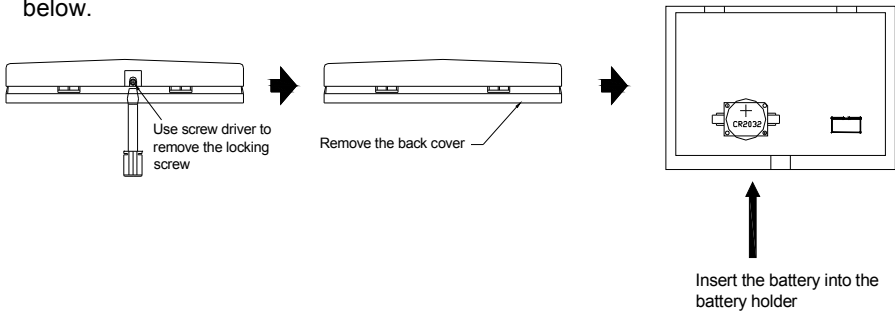
Not Correctly Triggered

Check the clock is set to the right time (day light saving?) and the timer has been correctly programmed.

Loss of Settings


If the SAT-2 fails to retain the preset timer settings when the power supply is off then check the battery to see if it needs replacing. If the battery is flat, low or missing, the LCD display will still operate, however the clock will reset to 0:00, SUN settings.

The battery is located at the rear of the SAT-2. Separate the thermostat body from the wall mounting plate by removing the screw attaching both pieces as picture below.



Remove and check the battery. If necessary, replace with a lithium CR2032 cell battery.

Keypad Will Not Respond

Check to see if key lock symbol  is displayed. Refer to page 7 for unlocking procedure.

Remote Control Doesn't Operate

1. Check the batteries in the remote control aren't flat.
2. The infra red remote control must be pointed directly at the SAT-2 wall thermostat plaque in order for its signal to be received.
3. If there is no light or beep from the wall plaque when the remote controls buttons are pressed, consult your installer to ensure the wall plaque has been set up correctly for remote control use.



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