The SunStat Si Programmable Room Thermostat

User Instructions

What is a programmable room thermostat?

A programmable room thermostat is both a programmer and a room thermostat. A programmer allows you to set 'On' and 'Off' time periods to suit your own lifestyle. A room thermostat works by sensing the air temperature, switching on the heating when the air temperature falls below the thermostat setting, and switching it off once this set temperature has been reached.

So, a programmable room thermostat lets you choose what times you want the heating to be on, and what temperature it should reach while it is on. It will allow you to select different temperatures in your home at different times of the day (and days of the week) to meet your particular needs.

Turning a programmable room thermostat to a higher setting will not make the room heat up any faster. How quickly the room heats up depends on the design of the heating system, for example, the size of boiler and radiators.

Neither does the setting affect how quickly the room cools down. Turning a programmable room thermo stat to a lower setting will result in the room being controlled at a lower temperature, and saves energy.

The way to set and use your programmable room thermostat is to find the lowest temperature settings that you are comfortable with at the different times you have chosen, and then leave it alone to do its job. The best way to do this is to set low temperatures first, say 18°C, and then turn them up by one degree each day until you are comfortable with the temperatures. You won't have to adjust the thermostat further. Any adjustments above these settings will waste energy and cost you more money.

If your heating system is a boiler with radiators, there will usually be only one programmable room thermostat to control the whole house. But you can have different temperatures in individual rooms by installing thermostatic radiator valves (TRVs) on individual radiators. If you don't have TRVs, you should choose a temperature that is reasonable for the whole house. If you do have TRVs, you can choose a slightly higher setting to make sure that even the coldest room is comfortable, then prevent any overheating in other rooms by adjusting the TR V s.

The time on the programmer must be correct. Some types have to be adjusted in spring and autumn at the changes between Greenwich Mean Time and British Summer Time.

You may be able to temporarily adjust the heating programme, for example, 'Override', 'Advance' or 'Boost'. These are explained in the manufacturer's instructions.

Programmable room thermostats need a free flow of air to sense the temperature, so they must not be covered by curtains or blocked by furniture. Nearby electric fires, televisions, wall or table lamps may prevent the thermostat from working properly.

Introduction

The SunStat Si is a wired programmable room thermostat. In addition to the normal programmable room thermostat features this unit also benefits from installer selectable Service Interval (Si) and Delayed Start (DS) modes. A SunStatRF Si should be purchased if a wireless (RF) version of the same unit is required.

Thermostat position

The thermostat should be placed at a height of 1.5m from the floor. Do not position on an outside wall, above a radiator, next to a door, or in direct sunlight.

For fixed wiring only

Disconnect the mains supply before attempting to wire the unit, or removing unit from back plate. A switch having a contact separation of at least 3mm in all poles must be incorporated in the fixed wiring as a means of fully disconnecting the mains supply. An appropriate fuse should also be fitted to the circuit.

WARNINGS

All installations should be carried out by a competent person and in line with current wiring regulations.

The covers must not be removed from any part of the units before the electrical supply has been isolated.

Interference with sealed parts will render the guarantee void.

Safe Disposal

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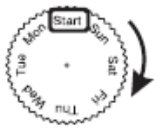
Programming Instructions

Set/Adjust Clock

Setting sequence is

Hour>**Minute**>**Year**>**Month**>**Day**

Spin the rotary selector to "**START**".



1. Press & hold Date for 3 seconds to enter setting mode.
2. The "Hour" number on the LCD will flash.
3. Press + or - to set the correct hour.
4. Press the Date to set the minute.
5. Press + or - to set the correct minute.
6. Follow the same procedure as above to set the "year" then "month" and "day" respectively.
7. Press Date again if further changes to the clock are required.
8. When satisfied that the clock has been set correctly press OK to confirm & save the changes.
9. Any delay of longer than 15 seconds when setting the clock, will result in the unit returning to normal operation without saving the changes

Setting the program

It is possible to set 4 different programs for each day of the week. Each program comprises of 1 temperature and time set points. 4 symbols are used to differentiate the programs.

1st program of a day "**P1**" is indicated by 

2nd program of the day "**P2**" is indicated by 

3rd program of the day "**P3**" is indicated by 

4th program of the day "**P4**" is indicated by 

The thermostat will hold the room temperature at the required set point within each programmed time zone. At the next programmed time zone the temperature can be changed, if required, to a different temperature setting.

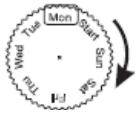
The program resolution is in 10 minutes intervals. The first interval of the day starts at 00.00 and the last interval of the day starts at 23.50.

The programming is designed to allow users to "overlap" time zones, if required. If an "overlap" is selected the number of programmes will reduce by the number of "overlaps" For example if the start up time of P3 is the same as the start up time of P4, then the P3 operation will become an invalid command.

Program default settings

Program No	On Time	Temperature
P1	**06.00**	**21.0°C**
P2	**08.00**	**18.0°C**
P3	**16.00**	**21.0°C**
P4	**23.00**	**17.0°C**

1) Spin the rotary selector to the day of the week that is required to be programmed (**Monday** for example).



2) Note that **Monday** corresponds to **day 1** on the top line of the display. **Tuesday** corresponds to **day 2** etc.

3) Press + or - to set the required **P1** temperature.

4) Press OK to save the required **P1** temperature.

5) Press + or - to set the required **P1** start time.

6) Press OK to save the required **P1** start time.

7) Repeat the above procedure for **P2**, **P3** & **P4** to set the remaining temperature and time set points for the selected day.

8) To set a different day, spin the rotary selector to the next required day in the week and repeat the above procedure.

9) After completing the settings for all 7 days, spin the rotary selector to "**START**". The thermostat will automatically retain the settings and start to operate.

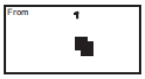
Copy Function

The copy function allows a program setting to be copied from one day to any number of the remaining days.

1) Use the rotary selector switch to select the day which will be used as the source (**Monday** for example).

2) Check, if necessary, that the "day" to be used as the source program has been programmed correctly, using the above "**setting the program**" procedure.

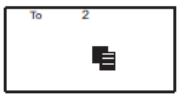
3) When satisfied that the source day, in this case Monday, has been programmed correctly press button.

4) The LCD will show 

5) Note that the day number "1" corresponds to Monday, "2" corresponds to Tuesday …. "7" corresponds to Sunday.

6) Spin the rotary selector to the day of the week that requires the same program settings as the "**source day**" (Tuesday for example). The day number will flash.

7) Press OK to confirm and save the source program settings to the selected day, Tuesday in this example. The day number will stop flashing to indicate it has been successfully copied.

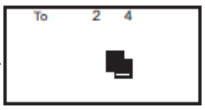
8) The display will show. 

9) Spin the rotary selector to any of the remaining days of the week that require the same program settings as the "**source day**".

10) Press OK to confirm and save the source program.

11) If the "**source day**" requires to be copied to a second day then move the rotary selector to the required day (in this example Thursday).

12) Press OK to confirm and save the source program to the selected day.

13) The display will show. 

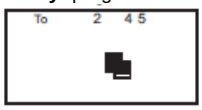
14) Repeat steps 10) and 11) if the source program is required to copied to another day of the week.

15) Spin the rotary selector to “START” after the source day has been copied to all the desired days of the week. The thermostat will retain settings and start normal operation.

16) If it is required to copy a second “**source day**” to a day of the week that has not been programmed or requires to be changed then repeat steps 1) to 7) and when complete step 14).

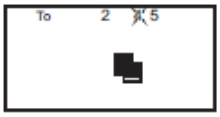
17) The user can delete a day of the week that has been wrongly selected during the “**COPY**” process by pressing the button to remove the selected day from copy process.

18) For example, if during the copying process Tuesday, Thursday and Friday have been selected as the days requiring the ”**source day**” program to be copied to, the display will show.



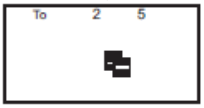
19) If, using the above example, Thursday has been wrongly selected then spin the rotary selector to Thursday and then press.

20) On the display the digit “4” will flash.



21) Spin the rotary selector away from Thursday and “**4**” will disappear from the display.

22) Thursday has been deleted from “**COPY**”.



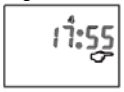
23) Any other day can be selected and deleted as above.

Manual Override

When the thermostat is operating normally (rotary selector switch in the “**START**” position) the set temperature can be temporarily overridden **until the next program** start time.

1) Press the + or − to temporarily raise or lower the set temperature to the desired level.

2) After the second press of either + or − buttons will appear on the display indicating that the unit is in the manual override mode.



3) Spin the rotary selector away from “**START**” and then back to “**START**” to stop the manual override and return the system to the normal program settings.

Holiday Mode

The **Holiday Mode** allows the user to fix the set temperature for a designated period of time. This period can range from 1 hour to 99 days or permanently. This allows the user to set a low background temperature when they will be away from the room for a longer period than normal (e.g. when on holiday).

1) To activate the **Holiday Mode** spin the rotary selector to “**START**” and the press the button.

2) The temperature setting on the display will flash.

3) Press + or − to set the required temperature.

4) Press OK to save the set temperature and select the duration of the holiday period.

5) The display “**1h**” character will now flash.

6) Press + or − to select the required duration of the holiday period.

7) The duration of the holiday period ranges from 1h (1 hour) to 99d (99 days) and “— “ (permanent).

8) Press OK to start the holiday mode.

9) The will appear on the display when the “**Holiday Mode**” is active.

10) To de-activate “**holiday mode**”, at any time, press the button.

11) The unit will now return to normal operation.

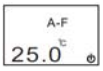
Frost Protection (Stand-by)

The thermostat has a **stand-by** facility. When in stand-by mode the thermostat is off unless the temperature falls below 5°C.

1) Spin the rotary selector to “**START**”.

2) Press and hold for 3 seconds.

3) A will appear on the display.



4) The thermostat will remain off unless the temperature drops below 5°C.

5) To return the thermostat to normal operation, when in stand-by mode, press and hold for 3 seconds to return the unit to normal operation.

Operation Time

The thermostat has the facility to measure the amount of time it sends a boiler or cooling “ON” command. This is designed to help the user estimate the cost of heating or cooling.

1) The function can record up to a maximum of 999 hours and 59 minutes.

2) Press Oper time to check how long the thermostat has been in operation.

3) Press OK to return to normal operation.

4) To reset the counter:
   a. Press Oper time to display the operation time
   b. Press and hold Oper time for 3 seconds.
   c. The operation time will then flash
   d. Press OK to reset the recorded time to 000.00.

5) The counter will automatically restart. After a few seconds the display will return to normal.

6) Please note the recorded operation time will automatically reset when the clock has been adjusted.

Low Power Indication / Changing the batteries

1) The low battery indicator will be displayed on the LCD when the batteries need to be changed.
2) The display unit has to be removed from the back-plate in order to replace the batteries.

3) Before removing the display unit from the back-plate disconnect the mains power.

4) Remove the display unit from the back-plate by loosening the retaining screw on the left hand side of the unit and then lightly pull the display unit away from the back-plate.

5) The battery compartment is located on the inside of the display unit.

6) Replace the batteries, taking care that they are orientated correctly and then re-fit the display unit to the back-plate and then tighten the retaining screw.

7) Always replace both (2) batteries at the same time. Only use 1.5V alkaline batteries of the type LR06 (AA).

8) Do not dispose of batteries with household rubbish. They must be returned in accordance with the local statutory requirements.

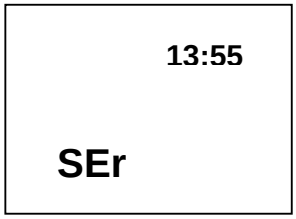
Service Interval

The Service Interval function has been designed to help landlords comply with current gas regulations. This function, if desired, will be activated by the installer / landlord. Once the function has been activated it cannot be disabled.

The installer sets the service interval. This value can be set between **365** & **0** (default **365** days). The service must be carried out by this time. The installer also sets the number of days, before the service is due (between 30 & 60, default **30** days), after which time a warning message will be displayed. When this number is reached the unit will display "**SEr**", indicating the service is due, in the near future and arrangements should be made for the service to be carried out.

If the service is not carried out by the end of the Service Interval period the unit will go into setback mode. This mode forces the set temperature to **14°C**, meaning the heating will only switch on if the temperature falls below **14°C**. When the unit is in setback mode the screen display will alternate between "**SEr**" & the set temperature ("**14°C**").

This temperature is chosen to be uncomfortable for the residents but nevertheless ensuring the house temperature does not fall below a dangerous level.



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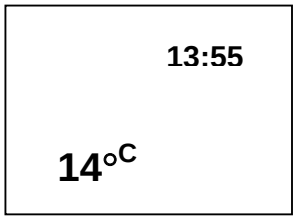


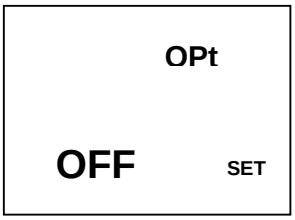
Delayed Start

The SunStat Si has a **Delayed Start** feature. This feature is designed to delay the heating coming on mild days. The feature can delay the heating coming, for a period of time, depending on the difference between the actual room temperature and the set temperature. The feature only becomes active if the room temperature is within **6°C** of the set temperature. For every degree closer to the set temperature an additional **8 minutes** is added to the delay up to a maximum delay of **64 minutes**.

The **Delayed Start** feature only works on the 1st (**P1**) & 3rd (**P3**) programme times (i.e. when the set room temperature usually goes from a lower temperature to a higher temperature).

The **Delayed Start** feature is set at the factory to be "**OFF**".

1) To enable or disable the **Delayed Start** spin the rotary selector to "**START**".
2) Press and hold the OK and buttons for approximately 5 seconds.
3) Press + or − to select "**On**" or "**OFF**".
4) Press OK to return to normal operation.



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