

heatmiser®



Model: **PRT-WTS**



Table Of Contents

Product Image	1	Temperature Control	16
Table of Contents	2	Temperature Hold	17
What is a Programmable Room Thermostat?	3-4	Holiday Programming	18
Installation Procedure	5-6	Frost Protection	19
LCD Display	7-8	Heating ON/OFF	20
Pairing the Thermostat	9-10	Optional Features Explained	21-24
Setting the Clock	11	Battery Recharging	25-26
Temperature Display	12	Re-calibrating the Thermostat	27
Comfort Levels Explained	13-14	Factory Reset	28
Clean Screen	15	Notes	29-30
Locking the Keypad	15		

? What is a Programmable Room Thermostat?

A programmable room thermostat is both a programmer and a room thermostat.

The programmer allows you to set “On” and “Off” periods to suit your own lifestyle. The 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 and preferences.

Setting a room thermostat to a higher temperature will not make the room heat up any faster. How quickly the room heats up depends on the design & size of the heating system.

Similarly reducing the temperature setting does not affect how quickly the room cools down. Setting a programmable room thermostat to a lower temperature 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 the room thermostat to a low temperature – say 18°C, and then turn it up by 1°C each day until you are comfortable with the temperature. You won't have to adjust the thermostat further. Any adjustment above this setting 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 TRVs.

You are able to temporarily adjust the heating program by overriding or using the temperature hold feature. These features are explained further on pages 14 and 15 of this manual.

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 also prevent the thermostat from working properly.



Installation Procedure



Do
Mount the thermostat at eye level.
Read the instructions fully so you get the best from our product.



Don't
Do not push hard on the LCD screen as this may cause irreparable damage.
Do not install near to a direct heat source as this will affect functionality.
If using the desk stand, ensure the thermostat is away from heat sources.

Wall Mounting:

Step 1

Fix the wall plate to the wall.

Step 2

Push the thermostat onto the wall plate.

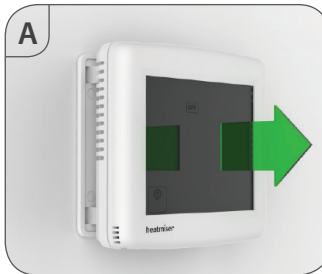
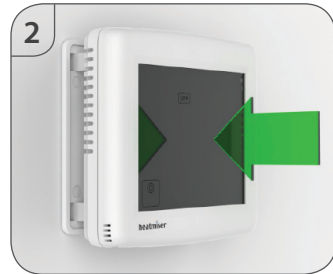
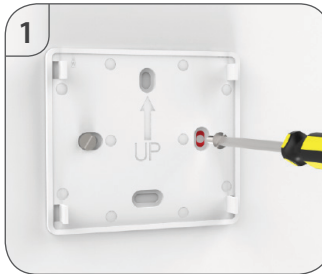
Desk Stand:

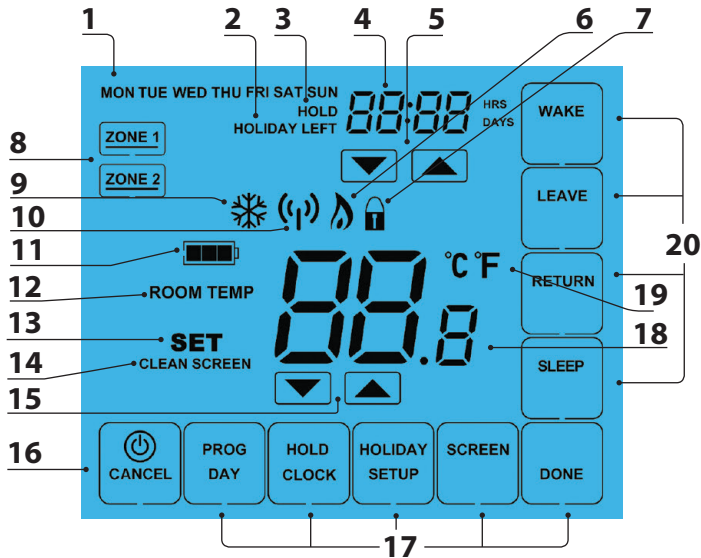
Step A

Remove the thermostat from the wall plate.

Step B

Release the desk stand.





LCD

LCD Display

1. Day Indicator - Displays the current day.
2. Holiday Indicator - Displayed when the thermostat is in Holiday mode.
3. Temperature Hold - Displayed when the thermostat is in Hold mode.
4. Clock - Displays the time in normal operation, time left in hold or days left in holiday mode.
5. Up/Down Buttons - Increase or decrease values shown on top digit group.
6. Flame Icon - Displayed when the thermostat is calling for heat, the flame icon will flash when optimum start function is in operation.
7. Keypad Lock Icon - Shown when the keypad is locked.
8. Zone Indicator - Displays which zone on the RC1-WTS the thermostat is linked to.
9. Frost Icon - Displayed when the thermostat is in frost protection mode.
10. RF Icon - Flashes when the thermostat communicates with the receiver.
11. Battery Icon - Indicates current battery charge level.
12. Room Temp - Indicates the current temperature sensor mode.
13. Set - Indicates when changes are being made to programs or temperature set points.
14. Clean Screen - Freezes screen temporarily to enable cleaning.
15. Up/Down Buttons - Increase or decrease values shown on bottom digit group.
16. Power: Single press to enable/disable frost protection or press and hold to turn off display. Cancel: used to exit setup/program operations.
17. Setup/Programming Buttons - Used to navigate setup options.
18. Current Temp - Indicates the current sensor temperature.
19. Units of Temperature - Degrees Celsius or Fahrenheit.
20. Comfort Level Selection Buttons - Used in comfort level setup (see page 13).











Pairing the Thermostat

To pair the thermostat with the RC1-WTS receiver, follow these steps.

On the receiver;

Press the Pair button once.
The Communication LED will light up.

On the thermostat;

- Press PROG and then SETUP  
- At the top of the LCD, you will see 01.
- Use the Up key to select 05 and enter the pairing function 
- Press Zone 1 or Zone 2 to select the relevant zone  
(Two PRT-WTS can work with a single receiver, offering a two zone system)
- In the centre of the LCD, you will see 01. This is the channel address.
The default setting of 01 can be used in most cases, but should be changed when a conflict is detected with other RF devices.
- Use the Up/Down keys to enter the address  
- Press SETUP to Pair the thermostat and receiver 

Note: You must finish pairing the thermostat before the communication LED goes out.



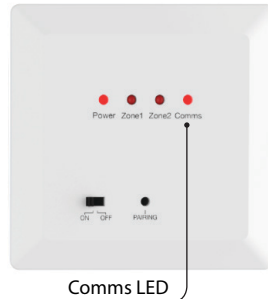
Pair Successful

The Comms LED on the receiver should flash and then go out to indicate the pair is successful. The thermostat will display the communication icon.



Pair Fail

If the Comms LED does not flash there is a problem with the RF signal and you should reduce the distance between the thermostat and receiver. Where possible ensure there are no metal objects blocking the signal. The LED will automatically go out after 1 minute.

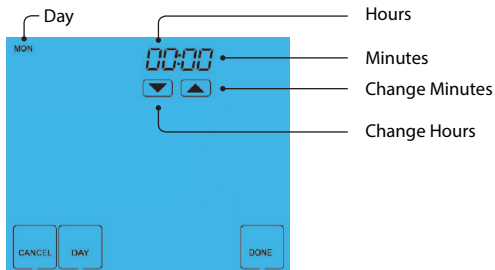




Setting the Clock

To set the clock, follow these steps.

- Press PROG
- Press CLOCK
- Use the Down key to set the hours
- Use the Up key to set the minutes
- Use the Day key to set the day of the week
- Press DONE to confirm and exit



PROG

CLOCK



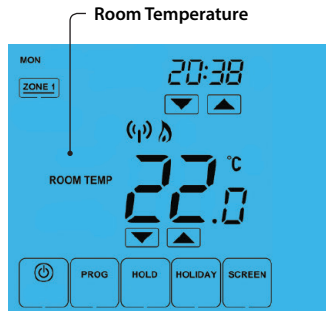
DAY

DONE

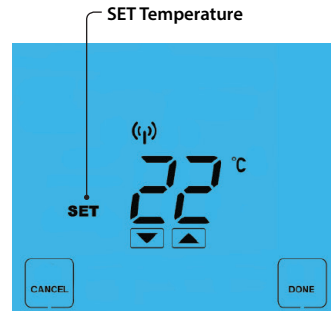


Temperature Display

The temperature display information is driven by two different inputs; the sensor measurement and the target temperature you have set.



This is the current room temperature.



This is the temperature you are trying to achieve in your home.



Comfort Levels Explained

Comfort levels allow you to set different temperatures throughout the day. For example, you may want the home warm in the morning when you are getting ready for work, cooler during the day when the house is unoccupied and then warmer in the evening when you are home relaxing.

The thermostat offers 2 programming options:

5/2 Day Programming - 4 levels for the weekdays and 4 different levels for the weekend.

7 Day Programming - 4 levels for each day.

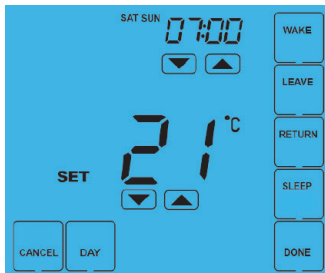
See pages 23-24 for details on how to switch between these modes.

Tip! If you don't want to use all of the comfort levels, just set the time to --:--

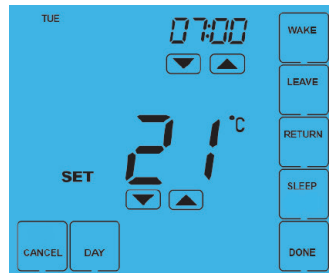
Default comfort levels are pre-programmed but you can change them easily.

Weekday Level	Time	Temp
Wake	07:00	21°C
Leave	09:00	16°C
Return	16:00	21°C
Sleep	22:00	16°C
Weekend Level	Time	Temp
Wake	09:00	21°C
Leave	22:00	16°C
Return	--:--	--°C
Sleep	--:--	--°C

- Press PROG
- Select WAKE
- Use the Up/Down keys to set the time for WAKE period
- Use the Up/Down keys to set the temperature
- Repeat these steps for the LEAVE, RETURN & SLEEP periods
- Press DAY to select the next day to program and repeat



In 5/2 Day mode the thermostat will display "Sat Sun" prompting you to program the temperature levels for the weekend.



In 7 Day mode, the thermostat will display Tue.

- When complete, press DONE to confirm settings and exit



Clean Screen

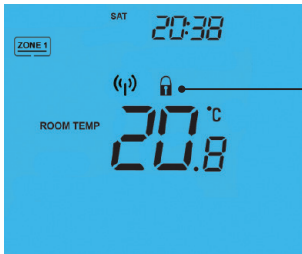
Pressing **SCREEN** will disable all keys, providing you 15 seconds to wipe the screen clean before the keys are re-activated.



Locking the Keypad

The thermostat has a keypad lock facility.

- To activate the lock press the bottom right corner of the display and hold for 10 secs.
- When activated, you will see the Keypad Lock symbol.
- To cancel, press the bottom right corner of the display again for 10 secs.



Keypad Lock Indicator



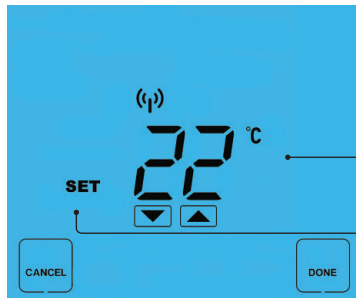
Temperature Control

The keys under the temperature display allow you to adjust the set temperature.

When you press either of these keys, you will see the temperature and the word SET appear on screen.

Select the desired temperature and press **DONE** to confirm and exit.

Note: This new temperature is maintained only until the next programmed comfort level. At this time, the thermostat will revert back to the programmed levels.



Set Temperature

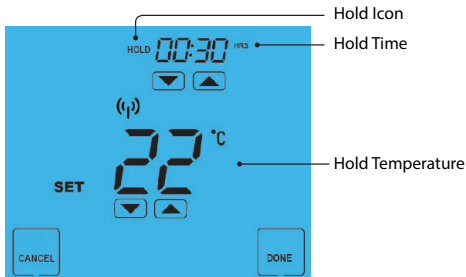
Set Icon



Temperature Hold

The temperature hold function allows you to manually override the current operating program and set a different temperature for a desired period.

- Press HOLD
- Use the top set of Up/Down keys set the hold period
- Use the center set of Up/Down keys to set the hold temperature
- Press DONE to confirm and exit



To cancel a temperature hold, follow the same steps but reduce the time to 00:00.



Holiday

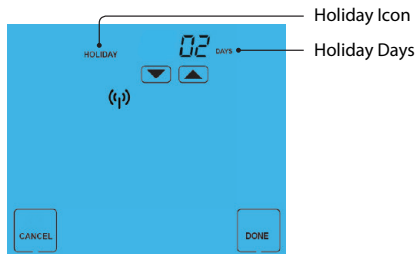
The holiday function reduces the set temperature in your home to the frost protection temperature setting (see page 21).

The thermostat will maintain this temperature for the duration of the holiday and will then automatically return to the program mode on your return.

- Press HOLIDAY
- Enter the desired duration in days
- Press DONE to confirm settings and exit


Note: A holiday period does not start until 00:00 the next day. For example, if you set a holiday period on Friday for 2 days, Saturday will be counted as the first day and the thermostat will revert back to the programmed schedule at 00:00 on Monday.

To cancel a Holiday setting, reduce the holiday time to 00 days.





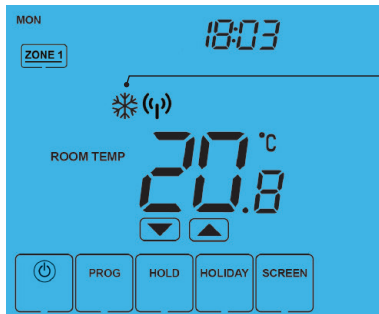
Frost Mode

Pressing the  key once will place the thermostat in frost protect mode.

In this mode, the thermostat will display the frost icon and will only turn the heating on should the room temperature drop below the set frost temperature (see page 21).

Should the heating be turned on whilst in frost mode, the flame symbol will be displayed.

To cancel the frost protect mode, press the  key once.




Frost Protection Mode Enabled




Heating On/Off

The heating is indicated ON when the flame icon is displayed.

When the flame icon is absent, there is no requirement for heating to achieve the set temperature but the thermostat remains active.

To turn the thermostat OFF completely, press and hold the Power key 

The display and heating output will be turned off completely.

To turn the thermostat back ON, press the Power key once 

Thermostat completely OFF



Thermostat powered ON





Optional Features Explained

THE FOLLOWING SETTINGS ARE OPTIONAL AND IN MOST CASES
NEED NOT BE ADJUSTED

Feature 01 – Temperature Format: This function allows you to select between °C or °F.

Feature 02 – Switching Differential: This function allows you to adjust the switching differential of the thermostat. This is the number of degrees the thermostat will switch on below the set temperature. This can be adjusted in order to obtain optimum switching of the heating in your home. As an example, the default is 1°C which means the thermostat will switch the heating on 1.0°C below the set temperature. With a 2°C differential, the heating will switch on 2°C below the set temperature and will switch off when the set temperature is achieved.

Feature 03 – Frost Temperature: This is the temperature maintained when the thermostat is in frost mode. The range is 07-17°C. The default is 12°C and is suitable for most applications.

Feature 04 – Output Delay: To prevent rapid switching, an output delay can be entered. This can be set from 00 - 15 minutes. The default is 00 which means there is no delay.

Feature 05 – Pairing Function: Allows the thermostat to be paired with the receiver.

Feature 06 - Fail Safe: If enabled, the thermostat will send a signal to the receiver every 20 minutes. Should the receiver fail to receive the signal from the thermostat, the receiver will activate the output for 20% of the time. This is to protect the system against a loss of wireless signal or in case the thermostat battery fails whilst you are away.

Feature 07 – Optimum Start: Optimum start will delay the start up of the heating system to the latest possible moment to avoid unnecessary heating and ensure the building is warm at the programmed time. The thermostat uses the rate of change information to calculate how long the heating needs to raise the building temperature 1°C (with a rate of change of 20, the thermostat has calculated the building needs 20 minutes to raise the building temperature 1°C) and starts the heating accordingly.



Feature 08 – Rate Of Change: This is the number of minutes the thermostat has calculated it takes to raise your building temperature 1°C. The thermostat will continue to monitor and learn the heat up time of your home to optimise heating efficiency.

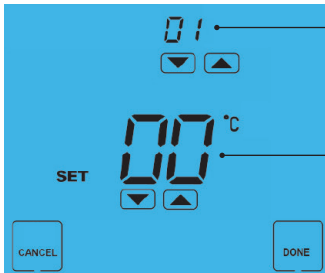
Feature 09 - Programming Mode: The thermostat offers 2 programming methods. Weekday/Weekend allows you to program 4 comfort levels for the weekdays and 4 different comfort levels for the weekend. In 7 Day program mode, each day has 4 comfort levels that can be programmed independently.



Adjusting the Optional Settings



To adjust the optional settings, follow these steps.

- Press PROG 
- Press SETUP 



Feature Number

Setting Value

- Use the Up/Down keys at the top of the screen to select the feature number (shown on page 24) and then use the Up/Down keys in the center to adjust the setting 
- Press DONE to confirm settings and exit 



Optional Settings - Feature Table

FEATURE	DESCRIPTION	SETTING
01	Temperature Format	00 = °C 01 = °F (°C = Default)
02	Switching Differential	0.5° - 3.0°C (1.0°C = Default)
03	Frost Protection Temperature	07° - 17°C (12°C = Default)
04	Output Delay	00 - 15 Minutes (00 = Default)
05	Pairing	Used to pair with the receiver
06	Fail Safe	00 = Disabled 01 = Enabled (01 = Default)
07	Optimum Start	00 - 03 Hours (00 = default)
08	Rate of Change	Minutes to raise by 1°C
09	Program Mode	00 = Weekday/Weekend 01 = 7 Day Programming (00 = Default)



Battery Recharging

The thermostat is equipped with a rechargeable battery.

The battery can provide power for up to 6 months before recharging is required in normal operating conditions.

To recharge the battery you need to connect the thermostat to a power source.

A mini USB to USB lead is supplied with the thermostat so you can recharge from the USB port on your laptop or PC.








Part ref: USB-02

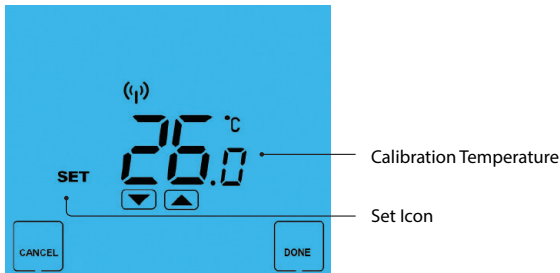




Re-calibrating the Thermostat

If you need to re-calibrate the thermostat, follow these steps.



- Press and hold the Power key to turn the thermostat OFF 
- Press and hold the OFF key until the temperature appears on screen 
- Use the Up/Down keys to configure the new temperature 
- Press DONE to confirm settings and exit 
- Press the Power button key to turn the thermostat back ON 



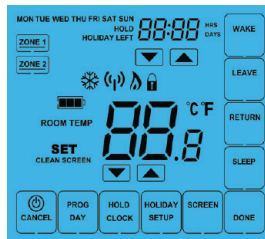
Factory Reset

The thermostat has a reset function to restore all settings to their factory defaults.

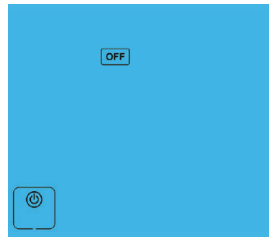
To perform a factory reset, follow these steps.

- Press & hold the Power key to turn the thermostat display OFF 
- Press and hold the bottom left corner of the LCD for 10 seconds.
- All of the screen icons will appear for 2 seconds and then disappear.
- Press the Power key once to turn the thermostat display back ON 

All icons displayed simultaneously.



Factory reset is complete.





Notes

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the entire width of the page. There are no margins, text, or other markings present.

Notes

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the entire width of the page. There are no margins, text, or other markings present.



Heating Professionals:

Request a copy of our product installation guide containing detailed technical specifications for our complete product range:
www.heatmiser.com/guide

Want More Information?

Call our support team on: +44 (0)1254 669090

Or view technical specifications directly on our website:
www.heatmiser.com



PDF



FAQ



Twitter: [heatmiseruk](https://twitter.com/heatmiseruk)



Facebook: facebook.com/thermostats