RFRP Room Thermostat Wireless

Contents

CAUTION!

The thermostat must not be left unsupervised when open. (Prevent non specialists and especially children from gaining access to it.)

Only qualified electricians or authorised service staff are permitted to open the thermostat.

If the thermostat is used in a way not specified by the manufacturer, its safety may be impaired.

Important: Keep this document

Prior to setting the thermostat, it is neccessary to complete all required settings described in this section.

1. Factory default settings

Temperature indicator:	°C
Switching differential:	0.4°C
In built frost protection:	5°C - Not adjustable
Clock:	24 hours
Keypad lock:	Off
Operating mode:	5/2 day

2. Specifications & wiring

Power supply:	2 x AA Alkaline Battery
Power consumption:	2 mW
Battery replacement:	Once a year
Temp. control range:	5 ... 35°C
Ambient temperature:	0 ... 50°C
Dimensions:	130 x 99 x 25mm
Temperature sensor:	NTC 10K Ohm @ 25°C
Temperature indication:	˚C
Switching differential:	0.4˚C
Frost protection:	Only operational in OFF mode

3. Mounting

The mounting height should be 1.5 meters above the floor level.

The thermostat should be wall mounted in the room where the heating is to be controlled.

The place of installation should be chosen so that the sensor can measure the room temperature as accurately as possible.

Choose the mounting location to prevent direct exposure to sunlight or other heating / cooling sources when mounted.

The unit can be fitted to:

1. Directly on walls.

2. Table mounting with stand provided.
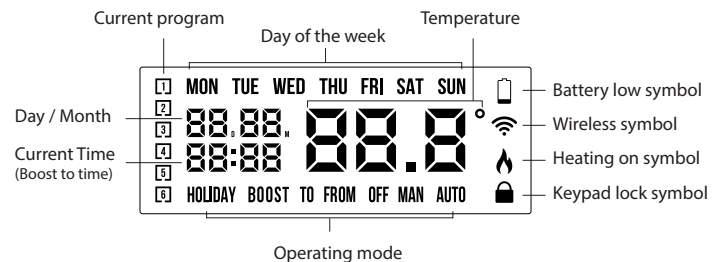
4. Installation

Lower the flap at the front of the thermostat.

There is a battery compartment located below the buttons.

Apply downward pressure to remove the cover.

Insert the 2 x AA batteries and the thermostat will turn on.

Close the battery compartment.
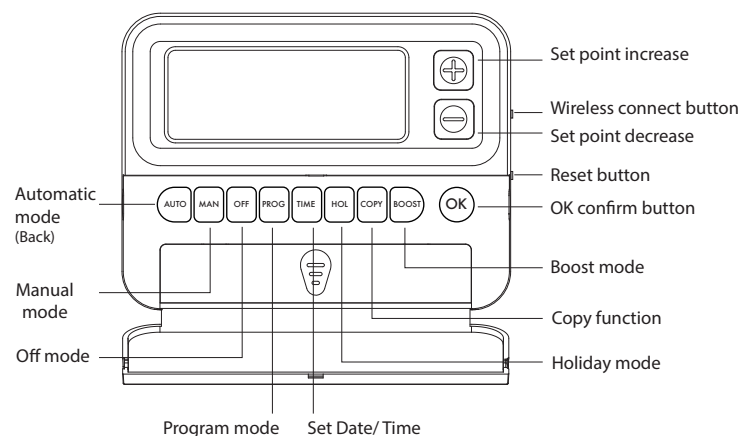
5. Frost protection   5°C

Frost protection is built into this thermostat.

It is pre fixed at 5°C and is not adjustable.

It will only be activated when the thermostat is in the OFF mode and the room temperature falls below 5°C.

6. LCD Symbol / button description

6.1 LCD Symbol description

Current program
Day of the week
Temperature
Day / Month
Current Time (Boost to time)
Battery low symbol
Wireless symbol
Heating on symbol
Keypad lock symbol
Operating mode

6.2 Button description

Set point increase
Wireless connect button
Set point decrease
Reset button
OK confirm button
Boost mode
Copy function
Holiday mode
Automatic mode (Back)
Manual mode
Off mode
Program mode
Set Date/ Time

7. Resetting the thermostat

It is necessary to reset the thermostat prior to initial programming.

Press the ■ RESET button on the side of the thermostat.

'**rst no**' will appear on the screen.

Press the ⊕ button.

'**rst yes**' will appear on the screen.

Press the '**OK**' button to reset the thermostat.

8. Keypad lock and unlock 🔲 OFF

To lock the keypad, press and hold the ⊕ and ⊖ buttons for 10 seconds.

🔒 will appear on the screen. The keypad is now locked.

To unlock the keypad, press and hold the ⊕ and ⊖ buttons for 10 seconds.

🔒 will disappear from the screen. The keypad is now unlocked.

9. Setting the date, time and operating mode

Press the '**TIME**' button once, the day will begin flashing.

Press the ⊕ or ⊖ buttons to adjust the year.   Press the '**OK**' button.

Press the ⊕ or ⊖ buttons to adjust the month.   Press the '**OK**' button.

Press the ⊕ or ⊖ buttons to adjust the day.   Press the '**OK**' button.

Press the ⊕ or ⊖ buttons to adjust the hour.   Press the '**OK**' button.

Press the ⊕ or ⊖ buttons to adjust the minute.   Press the '**OK**' button.

Press the ⊕ or ⊖ buttons to adjust from 5/2d to 7d or 24h mode.

Press the '**AUTO**' button or wait 5 seconds and the thermostat will return to normal operation.

10. Factory program settings 🔲 5/2d

🔲	5/2D					
	P1	P2	P3	P4	P5	P6
Mon-Fri	06:30	08:00	12:00	14:00	17:30	22:00
	21°C	18°C	21°C	18°C	21°C	16°C
Sat-Sun	08:00	10:00	12:00	14:00	17:30	23:00
	21°C	18°C	21°C	18°C	21°C	16°C

	7D					
	P1	P2	P3	P4	P5	P6
Mon-Fri	06:30	08:00	12:00	14:00	17:30	22:00
	21°C	18°C	21°C	18°C	21°C	16°C
Sat-Sun	08:00	10:00	12:00	14:00	17:30	23:00
	21°C	18°C	21°C	18°C	21°C	16°C

	24H					
Everyday	P1	P2	P3	P4	P5	P6
	06:30	08:00	12:00	14:00	17:30	22:00
	21°C	18°C	21°C	18°C	21°C	16°C

11. Adjusting the program settings for 5/2d

Press the '**PROG**' button once.

Programming for Monday to Friday is now selected.

Press the ⊕ or ⊖ buttons to adjust the P1 time.   Press the '**OK**' button.

Press the ⊕ or ⊖ buttons to adjust the P1 temp.   Press the '**OK**' button.

Repeat this process to adjust P2 to P6 times and temperatures.

Press the '**OK**' button.

Programming for Saturday to Sunday is now selected.

Press the ⊕ or ⊖ buttons to adjust the P1 time.   Press the '**OK**' button.

Press the ⊕ or ⊖ buttons to adjust the P1 temp.   Press the '**OK**' button.

Repeat this process to adjust P2 to P6 times and temperatures.

Press the '**AUTO**' button to return to automatic mode.

While in PROG Mode pressing the '**PROG**' button will jump from P1-P2 etc without changing the temperature.

While in PROG Mode pressing the '**TIME**' button will jump to the next Day (block of days).

If 7 D mode is selected, you can program each day of the week with 6 individual times and temperatures.

If 24H mode is selected, you can only program each day of the week with the same 6 times and temperatures.

12. Copy function

Copy function may only be used if the thermostat is in the 7d mode.

Set the times and temperatures for the day that you wish to copy from in PROG Mode.

When still on the day press the '**COPY**' button.

The day of the week that you have selected will be shown with '**COPY**' below it.

The next day will begin to flash on the top of the screen.

Press the ⊕ button to copy the times and temperatures to that day.

Press the ⊖ button to skip a day.

You can copy to multiple days using the ⊕ button.

Press the '**OK**' button when copying has been completed.

13. Temporary override

When in AUTO mode, press the ⊕ or ⊖ buttons to adjust the temperature setpoint.

'**OvEr**' will appear on the screen.

Press '**OK**' or after 5 seconds the thermostat will operate in this temporary override, util the next switching time.

To cancel temporary override, press the '**OFF**' buttton and then press the '**AUTO**' button to return to the automatic mode.

14. Permanent override

Press the '**MAN**' button to enter Manual Mode (Permanent Override).

'**MAN**' will appear on the screen.

Press the ⊕ or ⊖ buttons to adjust the temperature setpoint.

Press '**OK**' to confirm the temperature selection or after 5 seconds the thermostat will operate in this permanent override.

The thermostat will operate in MAN mode until the mode is changed.

To cancel permanent override, press the '**OFF**' button and then press the '**AUTO**' button to return to automatic mode.

15. Boost function

The thermostat can be boosted to a specific temperature for 1, 2 or 3 hours while the thermostat is operating in all modes except for holiday mode.

Press the '**BOOST**' button 1, 2 or 3 times, the time that the boost will be activated to will flash on the screen.

If you do not press any other button the boost will activate to the temperature displayed on the screen after 5 seconds.

If you press the '**OK**' button the temperature will now flash. You can edit the temperature if you press the ⊞ or ⊟ buttons.

Press the '**OK**' button or wait for 5 seconds to enter BOOST Mode.

'**BOOST TO**' will now be displayed on the screen with the time that it is activated to displayed above this text.

Press the '**BOOST**' button again to deactivate the boost.

16. Holiday function

This will switch your heating system off between the start and end times you select .

Press the '**HOL**' button, '**HOLIDAY FROM**' will appear on screen.

Press the ⊞ or ⊟ buttons to adjust the day.   Press the '**OK**' button.
Press the ⊞ or ⊟ buttons to adjust the month.   Press the '**OK**' button.
Press the ⊞ or ⊟ buttons to adjust the year.   Press the '**OK**' button.
Press the ⊞ or ⊟ buttons to adjust the hour.   Press the '**OK**' button.

'**HOLIDAY TO**' will appear on screen.

Press the ⊞ or ⊟ buttons to adjust the day.   Press the '**OK**' button.
Press the ⊞ or ⊟ buttons to adjust the month.   Press the '**OK**' button.
Press the ⊞ or ⊟ buttons to adjust the year.   Press the '**OK**' button.
Press the ⊞ or ⊟ buttons to adjust the hour.   Press the '**OK**' button.

The thermostat will now return to the mode it was in before the Holiday settings were entered.

To cancel Holiday mode, press the '**HOL**' button.

17. To connect the RFRP thermostat to an RF1A receiver

Please note, If you are installing a CombiPack4 the RFRP thermostat and the RF1A receiver will have a pre-established RF connection so it is not necessary to carry out the RF connection process below.

On the RF1A receiver:

Press the ⏚ button on the RF1A receiver.
The red and green light will begin to flash.

On the RFRP thermostat:

Press the ▬ CONNECT button.

The thermostat will begin to search through the RF channels.

Once an RF connection has been established the thermostat will show '**r01**' on the LCD screen.

Press the '**OK**' button to finish the process.

The thermostat is now connected to the RF1A receiver.

18. To disconnect the RFRP thermostat from an RF1A receiver

On the RFRP thermostat:

Press the ▬ CONNECT button.

The thermostat will begin to search through the RF channels.

Press and hold the '**COPY**' button for 10 seconds.

'**Addr**' will appear on the screen of the thermostat.

Press the '**OK**' button twice to complete the unpairing process.

The thermostat RFRP is now disconnected from the receiver RF1A.

On the RF1A receiver:

Press the ▬ RESET button and immediately press the ⏚ Connect button.

The red and green lights will flash quickly followed by a solid red light.

The RF1A receiver is now disconnected from the RFRP thermostat.

19. Backlight mode selection   AUTO

There are two settings for selection. The factory default setting is **AUTO**.
OFF   The backlight is permanently OFF.
AUTO   On pressing any button the backlight stays on for 5 seconds.

To adjust the backlight setting, lower the cover on the front of the unit.

Press the '**OK**' button for 5 seconds.

Press either the ⊞ or ⊟ buttons to select the **OFF** or **AUTO** mode.

Press the '**OK**' button.

20. Battery low warning

When the batteries are almost empty, the ▯ symbol will begin to flash on the screen.

The batteries must now be replaced or the unit will shut down.
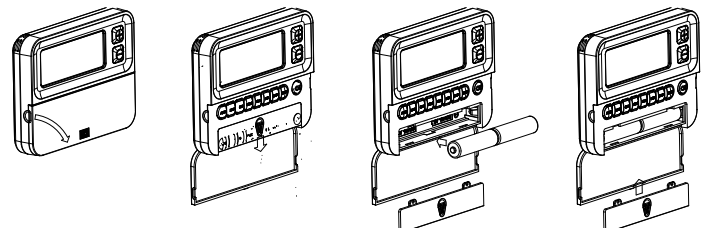
21. Replacing the batteries

Lower the flap at the front of the thermostat.
There is a battery compartment located below the buttons.
Apply downward pressure to remove the cover.
Insert the 2 x AA batteries and the thermostat will turn on.
Close the battery compartment.

22. Installer menu

To access the installer menu, you must hold Prog and OK for 5 seconds.

When in the installer menu, press + - and OK to navigate and select. Use AUTO, MAN or OFF to go back a step.

P0 1: Mode (Normal / Optimum Start / Tpi)
P0 2: Hi Lo (limiting the thermostat)
P0 3: Hysteresis (differential)
P0 4: Calibration
P0 5: Frost Protection
P0 6: Exit

P0 1: Mode (Normal / Optimum Start / Tpi)

▪ Normal Mode (Nor)

When the thermostat is in Normal mode, the thermostat will try to reach the target temperature after the program changes.

Example: Program 1 on the thermostat is 21°C for 06:30am and the room temperature is 18°C. The thermostat will start the heating at 06:30am and the room temperature will start to increase then.

▪ Optimum Start Mode (OS)   BOILER PLUS

When the thermostat is in Optimum Start mode, the thermostat will try to reach the target temperature by the start time of the next switching time. This is done by setting the Ti (time interval) on the thermostat in this menu to 10, 15 or 20. This will allow the thermostat 10 mins, 15 mins or 20 mins to increase the room temperature by 1°C.

Ti can be set when OS is selected in the installer menu.   20°C

To achieve the target temperature when the program starts, the thermostat will read:

1. The Room Temperature (RT)
2. The Setpoint Temperature (ST)
3. The Target Temperature Difference (TTD) is the difference between the setpoint temperature and the room temperature .

The time (in minutes) that it will take to overcome (TTD) is called Optimum Start Time (OST) and its maximum value is 3 hours = 180 mins. This is subtracted from the start time.

As the temperature increases the thermostat will recalculate the OST if the temperature is increasing too quickly.

Optimum Start Control Graph with Ti = 20
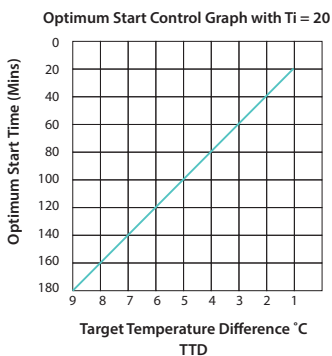
Example when Ti = 20

Program 1 on the thermostat is 21°C for 06:30am and the room temperature is 18°C. The thermostat will start the heating at 05:30am to reach 21°C for 06:30am @ Ti=20.

Example when Ti = 10 ▶

Program 1 on the thermostat is 21°C for 06:30am and the room temperature is 18°C. The thermostat will start the heating at 06:00am to reach 21°C for 06:30am @ Ti=10.

Optimum Start Control Graph with Ti = 15

Optimum Start Control Graph with Ti = 10
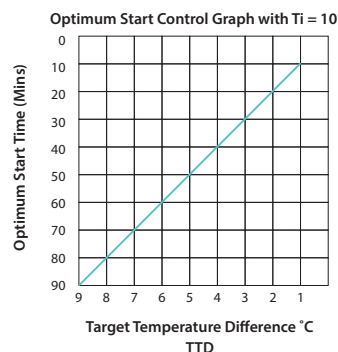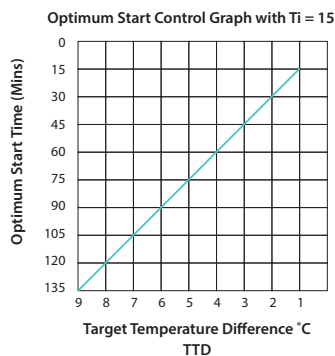
▪ Time Proportional Integral Mode (TPi)

When the thermostat is in TPi mode and the temperature is rising in the zone and falls into the Proportional Bandwidth section, TPi will start to affect the thermostats operation. The thermostat will turn on and off as it gains heat so that it doesn't overshoot the setpoint by too much. It will also turn on if the temperature is falling so it doesn't undershoot the setpoint which will leave the user with a more comfortable level of heat.

There are 2 settings that will affect the thermostats operation:

1. The Number of Heating Cycles Per Hour
2. The Proportional Bandwidth

CyC - Number of Heating Cycles per Hour: 6 Cycles

This value will decide how often the thermostat will cycle the heating on and off when trying to achieve the setpoint temperature. You can select 2/3/6 or 12.

Pb - Proportional Bandwidth: 2°C

This value refers to the temperature below the setpoint at which the thermostat will start to operate in TPi Control. You can set this temperature from 1.5°C to 3.0°C in 0.1°C increments.
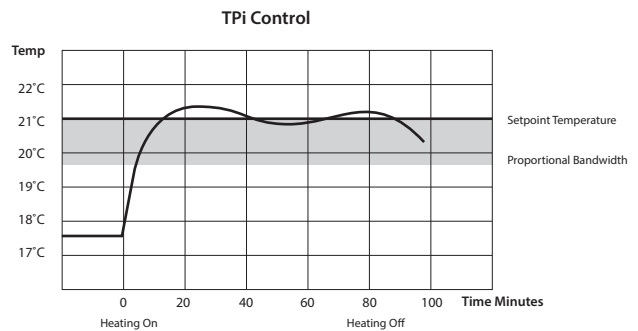
TPi Control

Example – Program 1 on the thermostat is 21°C for 06:30am and the room temperature is 18°C. The thermostat will start the heating at 06:30am and the heat will start to increase then but will switch itself off before it reaches temperature and allow the room temperature to increase naturally – this cycle may begin again if the thermostat isn't reaching temperature.

P0 2: Hi Lo (limiting the thermostat)

This menu allows the installer to change the minimum and maximum temperature range that the thermostat can be set at. Defaults are 35°C for Hi and 5°C for Lo.

P0 3: Hysteresis HOn and HOFF

This menu allows the installer to change the switching differential of the thermostat when the temperature is rising and falling.

HOn is the fall in temperature – Default – 0.4°C. This will allow a fall of 0.4°C from the setpoint before the thermostat turns on again.

HOFF is the rise in temperature – Default – 0.0°C. This will allow the temperature to rise 0°C above its setpoint.

P0 4: Calibration

This menu allows the installer to re-calibrate the thermostat. The current temperature will be displayed on the screen and can be adjusted by pressing the up and down buttons.

P0 5: Frost Protection   ON

This menu allows the installer to activate or de-activate frost protection. When frost protection is activated the thermostat will switch on the boiler when the temperature drops below 5°C.

P0 6: Exit

This menu allows the installer to return to the main interface. It is also possible to exit the installer menu by pressing AUTO, MAN or OFF whilst in the installer menu.

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