

**Note:** If you do not wish to set the Hot Water program press the **Mode** button to return to the normal display and the Control will then be in normal operating mode for Heating.

If **HOT WATER** is selected for programming

Select programme for EACH day:

Press **+ or -** buttons to select **P1, P2 or Pd\*** for day 1  
Press **OK** to confirm program setting for day 1  
Press **+ or -** buttons to select **P1, P2 or Pd\*** for day 2  
Press **OK** to confirm program setting for day 2  
Repeat the procedure for days 3 to 7  
Finally, Press **OK** to confirm program setting for day 7

\*If **Pd** is selected – set required program:

Press **-** button repeatedly to set the required **Night** period (eg. to 06.00 - This will be shown at the bottom of display)  
Press **+** button repeatedly to set the required **Day** period (eg. to 09.00 - This will be shown at the bottom of display)  
Press **-** button repeatedly to set the required **Night** period (eg. to 17.00 - This will be shown at the bottom of display)  
Press **+** button repeatedly to set the required **Day** period(eg. to 22.00 - This will be shown at the bottom of display)  
Finally  
Press **-** button repeatedly until 00.00 shows on display  
Press **OK** to confirm setting

Repeat this procedure for each day of the week – the settings for each day can be different if required.

After Pressing **OK** to confirm the Hot Water program setting last weekday (day 7), the display will automatically return to the normal display – showing current room temperature, time and program settings.

The Control is now in the Normal operating mode for both Heating and Hot Water

#### OTHER CONTROL OPTIONS

##### Temperature override

The 'day' (ON) temperature setting can be altered when the control is in a 'day' (ON) period of the program. Press **+ or -** to increase or decrease the temperature setting between 5°C and 30°C. Then press **Mode** button to quit.

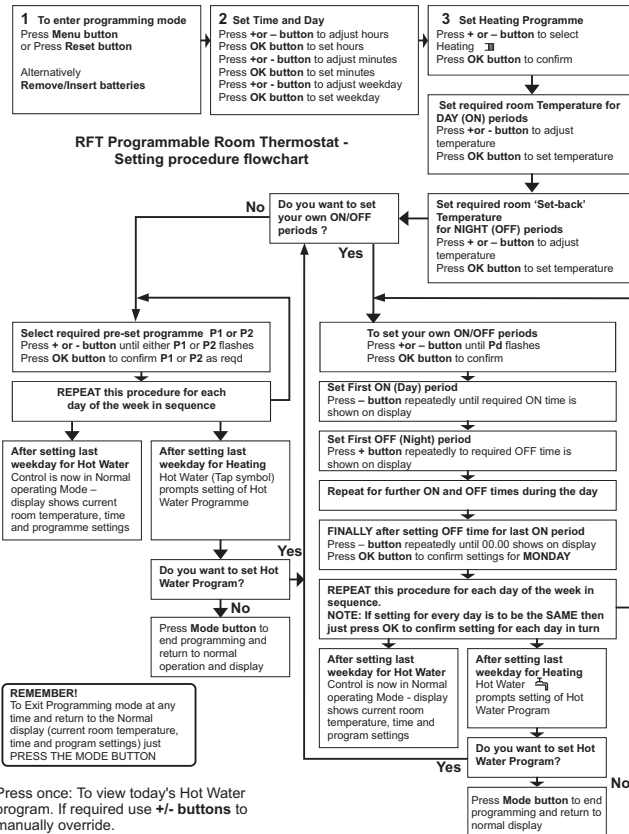
The 'night' set-back (OFF) temperature setting can be altered when the control is in a 'night' set-back (OFF) period of the programme. Press **+ or -** to increase or decrease the temperature setting between 5°C and 30°C. Then press **Mode** button to quit.

The heating control function will automatically return to the set programme at the next switching operation.

**Note:** The 'day' (ON) temperature setting cannot be altered when the control is in a 'night' set-back (OFF) period and, likewise, the 'night' set-back period cannot be altered when the control is in a 'day' (ON) period.

##### Mode options

Pressing the **Mode** button allows the following



Press once: To view today's Hot Water program. If required use **+/-** buttons to manually override.

Press twice: To manually switch Heating OFF  
Press 3 times: To manually switch Heating ON  
Press 4 times: For **Party** function – extends current day temperature setting until 00.00  
Press 5 times: For **Holiday** function – to set this use the following procedure:

Use **+** button to set the number of days holiday – then Press **OK** to confirm.  
Set fixed temperature for holiday period – then Press **OK** to confirm.

**NOTE:** Control automatically reverts to standard program after holiday period.

Press **OK** button to quit any manually selected mode and to revert to normal operating mode.

##### Low battery

The batteries will run the Transmitter for a period of between 18 months and 2 years – depending on amount of signal transmission (which is dependant on settings).

##### Emergency mode

Should the batteries be allowed to go completely flat (or a construction feature presents a total block to RF signals), when the

Receiver does not pick up any radio signal for a period of **one hour** it will go into an emergency mode condition.

During emergency mode, the receiver LED will flash rapidly and the heating will work in a fixed cycle of 3 minutes on and 7 minutes off. Once the batteries are replaced (or the block to the RF signal removed) and the signals are again received the Receiver will revert to the normal ON or OFF operation as required by the Transmitter.



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This manual is accurate at the date of printing but will be superseded and should be disregarded if specifications and/or appearances are changed in the interests of continued product improvement.

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# RFTKIT

## Fitting and User Instructions for RF 7-day 2-channel Programmable Room Thermostat

Suitable for  
Vortex Pro Kitchen/Utility & External models Vortex Pro Combi & External Combi Models

### IMPORTANT

These fitting Instructions supersede all previous instructions supplied for this control and also shown in the Installation instructions supplied with the boiler

### FITTING INSTRUCTIONS

#### KIT CONTENTS

The Wireless (RF) Two-channel Programmable Room Thermostat KIT (RFTKIT) contains the following items:

- 1 x RFT Twin-channel wireless (RF) Programmable Thermostat unit (to be wall mounted)
- 1 x FM/2 Receiver/switching unit (to be installed in wall mounted enclosure provided)
- 1 x Wall mounting enclosure – for FM/2 Receiver unit
- 1 x Fitting and User instructions

#### INSTALLATION

##### 1. INSTALL THE FM/2 RECEIVER UNIT

**Important:** Ensure the electrical supply to the boiler has been isolated before fitting the FM/2 unit.

##### 1.1 Fit the wall mounted enclosure

Refer to Fig.1 below.

Remove transparent cover.

Unscrew the two recessed screws and remove the main cover from the wiring base.

Remove the terminal cover from the wiring base.

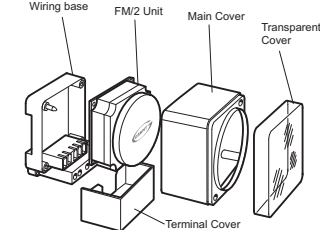


Figure 1. Wall mounted enclosure for RM/2 receiver unit

Position wiring base in required location **inside the property**. Mark and drill three holes in the wall and fix using suitable wall plugs and screws (not provided).

Connect the either **four or five** wires required (depending on boiler type and control system used) to the terminal on the wiring base. Refer to Fig.2 Connection diagram.

### IMPORTANT

**CONNECT WIRES TO THE CORRECT NUMBERED TERMINALS (AS SHOWN IN FIG.2) IRRESPECTIVE OF THE OTHER MARKINGS ON THE TERMINAL BLOCK.**

#### 1.2 Fit FM/2 receiver into enclosure

Working from the back of the FM/2 unit, carefully prise the unit out of the mounting it is supplied in using a small flat bladed screwdriver.

Once removed from mounting, fit the FM/2 unit on to the wiring base. Locate the five spade terminals of the FM/2 unit in the corresponding spring connectors. Push firmly until the terminals are fully into the spring connectors and the unit is correctly located on the wiring base.

Cut the underside of the terminal cover as required to accommodate the cable to the boiler.

Re-fit the terminal cover - locating the two inner edges into the groove on either side of the terminal block and sliding it into place.

Re-fit the Main cover to the wiring base-locating it onto the two guide pins on the base - and fasten using the two screws provided.

Re-fit the transparent cover.

#### 1.3 Connection to boiler

**Important:** Ensure the electrical supply to the boiler has been isolated before connecting the FM/2 unit.

Refer to Fig.2 – Connection diagram

#### Vortex Pro Kitchen/Utility – System & Non-system Models

1. Remove front and top boiler casing panels. Remove the four screws and lift off top cover from control panel.
2. Remove Brown wire link from terminals 1 & 4 on the boiler terminal block.
3. Connect the **four or five** wires from the FM/2 wiring base to terminals on control panel – refer to Fig.2 Connection diagram.
4. Re-fit top cover to control panel and fasten with the two screws.

**"When using the RFT kit with an 'S-plan' type control system (i.e. using 2 x 2 - port zone valves) there must be NO connection to Terminal 6 in the boiler control panel.**

#### Vortex Pro External Modules

1. Remove the boiler door and top casing panel.

2. Remove the three screws (two at top and one below control panel) and remove cover from left hand end of control panel.
3. Connect the **four\* or five** wires from the FM/2 wiring base. Feed wires through upper cable clamp and connect to terminals in control panel - refer to Fig.2 Connection diagram.
4. Re-fit control panel cover and secure using the three screws.

**"When using the RFT kit with an 'S-plan' type control system (i.e. using 2 x 2 - port zone valves) there must be NO connection to Terminal 14 in the boiler control panel.**

#### Vortex Pro Combi – Internal Models

1. Remove front and top boiler casing panels. Loosen (do not remove) the four screws securing control panel to the side panels. Hinge the panel forward to access top and rear of control panel.
2. Remove the two screws and lift off the terminal block cover from top of control panel.
3. Remove both the Red and Black wire links from terminals 17 & 18 and 19 & 20 on control panel.
4. Connect the **four** wires from the FM/2 wiring base to terminals on control panel – refer to Fig.2 Connection diagram.

**Note: there must be NO connection made from terminal 4 on the FM/2 unit.**

5. Re-fit terminal block cover on control box and fasten with the two screws.

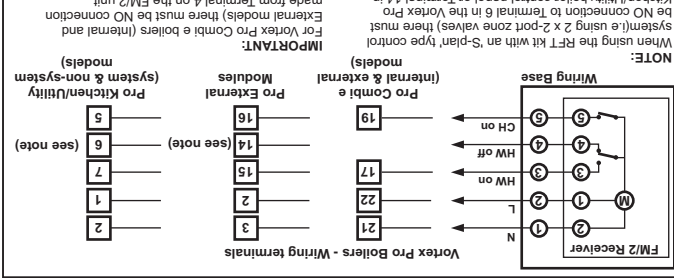
#### Vortex Pro Combi – External Models

1. Remove the boiler door, top casing panel and insulation from boiler.
2. Remove the two screws at top of control panel (in cross member). Hinge down control panel front.
3. Connect the **four** wires from the FM/2 wiring base. Feed wires through lower cable clamp and connect to terminals on control panel – refer to Fig.2 Connection diagram.
4. Re-fit control panel front and secure using the two screws.

### IMPORTANT

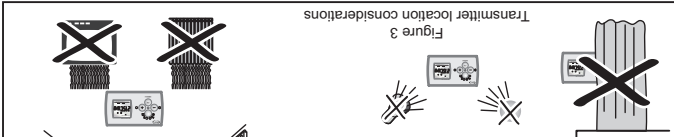
When the RFT kit is used with the **Vortex Pro External Combi boiler**, there must be NO electrical connections to terminals L1 and L2 on the Boiler isolation plug – e.g. no programmer, timer or room thermostat should be connected to the plug to control either the heating or hot water functions of the boiler. These are NOT necessary as the RFT programmable room thermostat will control both the heating and hot water operation of the boiler.

Figure 2. Connection diagram

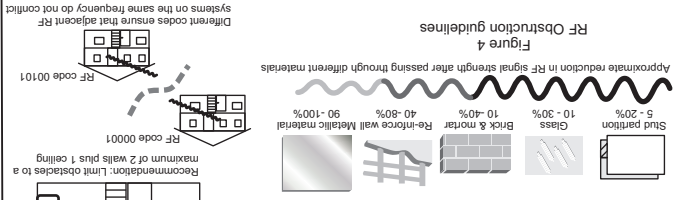


**2. INSTALL THE TRANSMITTER**

**2.1 Transmitter location**  
Identify a suitable location to wall-mount the transmitter unit. This should be away from draughts or any extraneous sources of heat, including direct sunlight (see Fig. 3).



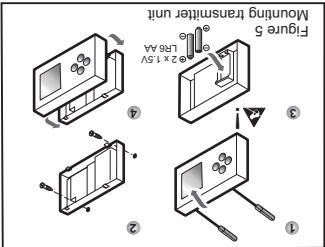
**2.2 Constructional RF obstructions**  
Constructional materials within domestic structures have a varying impact on the strength of radio frequency signals, refer to guidelines given in Fig. 5 to ensure that any obstacles to the RF signal are minimised.



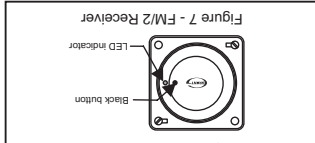
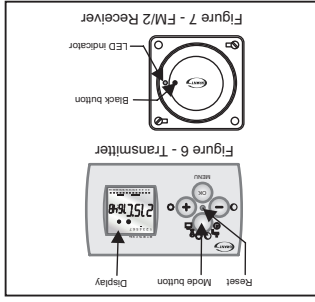
The transmitter should be centrally located within the property, where it will sense the ambient room temperature and it can be programmed to deliver temperature for a day (comfort) temperature when heating is required, and a background (or night set-back) temperature for those periods when heating is not required, but a minimum temperature should be maintained.

**2.3 Fitting the Transmitter**  
Remove the backplate from the transmitter unit by inserting a flat-bladed screwdriver into the backplate lugs and gently levering as shown. See Fig. 5.

Select at least two of the mounting holes in the backplate to secure it to the wall surface. Ensure screwdriver lugs are at the top. Before mounting on backplate, insert the batteries (2 x 1.5V LR6/AA) into the transmitter. Use only good quality alkaline batteries. Ensure batteries are inserted with the correct polarity. Clip transmitter unit onto backplate.



**3. COMMISSIONING (RF LINKING)**  
Having fitted the receiver and transmitter the receiver will not communicate until the commissioning process (detailed below) has been carried out.



Follow the procedure below:

- Using the tip of a ballpoint pen, press and hold small Black button on Receiver (see Fig. 6). Whilst holding the button down, the LED flashes immediately and then again 2-3 seconds later.
- Release Black button. LED remains on.
- Reconnect transmitter to the Receiver.
- Transmitter goes into permanent transmit mode for up to 3 minutes.
- Once a signal is received by the Receiver the LED will go to an intermittent flash. This indicates that secure RF communications have been established.
- Secure RF communications have been established according to the settings of the Transmitter.
- Press **OK** to confirm your selection. Press **OK** to return to normal operation. mode and to quit permanent transmit.

- To set up Energy duty (ED)**  
If required, the ED setting can be changed to match the heating cycle time, to the reaction time of the system. The default setting is **ED 01**. While ED 01 is displayed, press + or - to change the setting. The default setting ED 01 = 8.5 minutes ED 02 = 17 minutes ED 03 = 25.5 minutes Press **OK** to confirm your selection, then press **Mode** button to quit and return to normal operation.
- To set up Energy duty (ED)**  
The default setting ED 01 is best suited for well insulated properties (e.g. new or recently renovated houses) where the boiler is matched to the building heat loss. Settings ED02 and ED 03 can be used where the property is less well insulated (e.g. older un-renovated houses) or where the boiler may be undersized.

The commissioning process transfers a unique code from the Transmitter into the Receiver. The code is stored in non-volatile memory in the Receiver, if there is power cut, the Receiver will still function when mains power is restored without the need to re-commission the set.

**Important:** The Transmitter is a 7-day programmable device giving timed control of hot water and timed thermostat control of heating.

After installation of the Receiver and Transmitter, as described above, program the Transmitter by following the procedure shown below.

**USER INSTRUCTIONS**

- The Grant RF-T kit is a 7-day two-channel radio frequency (RF) programmable room thermostat control providing both:
  - Timed/thermostatic control of hot water
  - central heating
- The Heating control function switches the boiler off when the set temperature - in either an ON (Day) setting or OFF (Night set-back period) - is reached and on again when the temperature falls below the set temperature.
- Note: A set-back temperature period can be at any time of the day or night, e.g. you may want to use the lower set-back temperature during the day when your house is unoccupied.

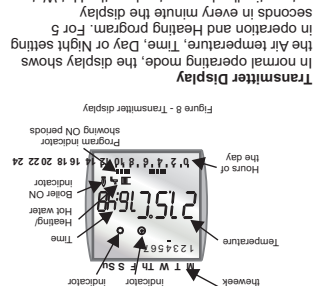
The Hot Water control function is completely independent of the heating control function. It simply switches the hot water on during the Hot Water ON time periods and off during the Hot Water OFF time periods.

**IMPORTANT:** The ON and OFF time periods for Heating and Hot Water are set separately. Refer to 'Programming the transmitter' section.

- A battery powered timer / thermostat
  - A remote boiler mounted Transmitter unit - See Fig. 6
  - A remote boiler mounted Transmitter unit (FM/2) - See Fig. 7
- The Transmitter has two pre-set programmes for both the Heating ON/OFF times and Hot Water ON/OFF times. These are referred to as **P1** and **P2**.
- P1 is ON continuously from 07.00 to 23.00 P2 is ON from 08.00 to 08.30 and again ON from 17.00 to 22.00
- A third option **Pd** is available. This allows you to set your own ON/OFF times for the Heating control.

Along the lower edge of the display is shown a graphic representation of today's program. Where blocks are visible this represents a temperature, and with no blocks are visible, this represents the set-back temperature.

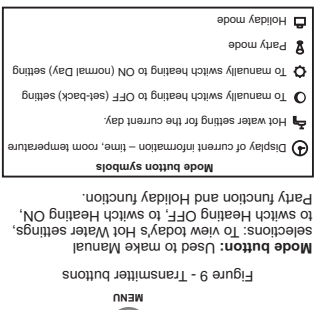
Figure 8 - Transmitter display



In normal operating mode, the display shows the Air temperature, Time, Day or Night setting in operation and Heating program. For 5 seconds in every minute the display automatically changes to show the Hot Water program. These are as follows (refer to Fig. 9).

**Menu/OK button:** Used to enter programming mode or to confirm a setting (OK)

**+ & - Buttons:** Used to make settings



**Mode button:** Used to make Manual selections: To view today's Hot Water settings, switch Heating OFF, to switch Heating ON, Party function and Holiday function.

**Pd is selected - set required program:** Press **button** repeatedly until the required first ON (Day) time is shown on the display (eg. 08.00).

This is shown digitally on the display and also on the 24 hour Program indicator at the bottom of the display. Press **button** repeatedly until the required first OFF (Night) time is shown on the display (eg. 09.00). This is also required first OFF (Normal Day) setting. Press **button** repeatedly until the required first ON (Day) period of the day is shown on the display (eg. 23.00) Press **button** repeatedly until 00.00 shows on the display. Press **OK** to confirm setting.

**Repeat this procedure for each day of the week -** the settings for each day can be different if required.

After Pressing **OK** to confirm the Heating program setting last weekday (day 7), the display will prompt you to set the Hot Water program for each day.

If you wish to set the Hot Water program at this point, then follow the programming procedure below.

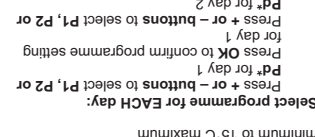
**Step 3: Set Time & Day:**  
Press **+ or - buttons** to adjust hours Press **OK** to confirm hours setting  
Press **+ or - buttons** to adjust minutes Press **OK** to confirm minutes

**Step 1: To enter programming mode:**  
Press **Menu** or **Press Reset** or **Remove/insert batteries**

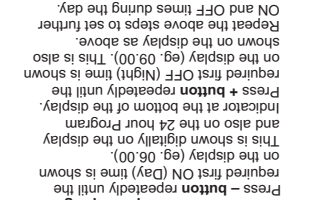
**Step 2: Set Time & Day:**  
Press **+ or - buttons** to adjust hours Press **OK** to confirm hours setting  
Press **+ or - buttons** to adjust minutes Press **OK** to confirm minutes

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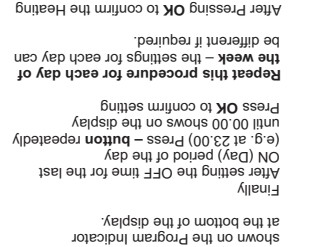
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