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PRODUCT COMPLIANCE

This product complies with the essential requirements of the following EC directives:

- Electro-Magnetic Compatibility Directive 2004/108/EC
- Low Voltage directive 2006/95/EEC
- EC Marking Directive 93/68/EEC

SAFETY INFORMATION

These instructions are applicable only to the RT500RF model and must not be used with any other make or model.

This accessory must be fitted only by a competent person, and installation must comply with the guidance provided in the current editions of BS7671 (IEE Wiring Regulations) and “Part P” of the Building Regulations. Failure to comply with these regulations may be dangerous and could result in prosecution.

Always isolate the AC mains supply before opening or removing the receiver unit from the wall or fused spur.

When using batteries, take care not to mix used and unused batteries together and do not use rechargeable batteries.

Please leave these instructions with the end-user for future reference. Please advise end-user to contact Ecopower Heating in the first instance in the event of a fault.

OVERVIEW

This programmable thermostat has been selected especially for use with Ecopower Heating products because it combines the functionality of both a room thermostat and heating controller in a single unit. The programmable thermostat unit is used to switch either a single or multiple Ecopower Heating Radiators on and off as needed. The unit works by monitoring the room temperature according to a series of programmed settings that can take effect at different times of the day. Programming options for this unit can be set for either 5/2 or 7 day periods.

The receiver unit is used for basic on/off control while the programmable thermostat provides the user interface, temperature sensing and control. The two units are linked together via radio frequency.

FEATURES

- **Volt free switching option**
- **5/2 or 7 day programming flexibility**
- **Built-in start up programming for quick installation**
- **Frost protection**
- **Large, easy to read LCD with back light**
- **Easy to use programming**
- **User friendly**
- **Wireless technology for ease of installation**
- **Accuracy to within +/-0.5 °C**

MOUNTING THE PROGRAMMABLE THERMOSTAT

The RT500 RF programmable thermostat is easy to install using the industry standard back plate which is supplied. This is used purely for mounting purposes, as no wiring is required for the programmable thermostat. The mounting plate can be secured directly onto the wall surface. The ideal position to locate the programmable thermostat is about 1.5m above the floor level. It should be mounted in a location that is easily accessible for the end-user, in a reasonably well lit area that is free from extremes of temperature and draughts. Do not mount on an exterior wall, above a radiator, or in a position that is often in direct sunlight.

To ensure a trouble-free operation of the RF signal, try to ensure that the programmable thermostat is mounted away from any possible sources of interference such as radios, televisions etc.) and that it is not mounted on, or very near to large metal objects.

CONNECTING THE RF RECEIVER UNIT

NOTE: Ecopower Heating advise that all electrical installation work should be carried out by a suitably qualified electrician or other competent person.

WIRING METHOD: Connect mains 240v fused spur to LIVE and NEUTRAL terminals on receiver unit. The LIVE and COM terminals must be bridged. Radiator to receiver: Connect NEUTRAL TO NEUTRAL. Connect LIVE to NO.

The receiver unit should be mounted in a suitable location that is both accessible for the 230v 13A fused-spur and also the Economiser Radiator that it is to control. The receiver should not come into contact with moisture, water, or condensation.

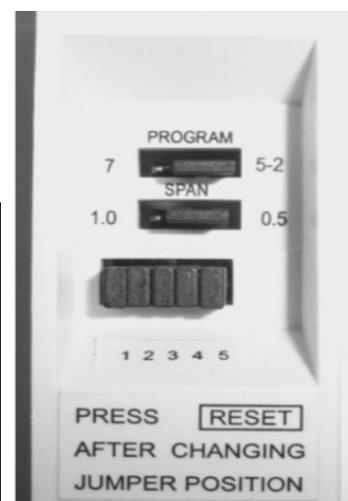
On the front of the receiver are two light emitting diodes. The red LED will illuminate when the switch is in the “on” position when the unit is receiving power. The green LED will illuminate when the unit is receiving a heat call transmission from the programmable thermostat. Typically, the neutral and live must be connected to the receiver from the mains supply. The fitted power cable attached to the Economiser Radiator must be used to connect to the receiver unit, but can be cut to the required length. Radiators are fully reversible.

NOTE: The receiver unit must have a permanent 230V AC main supply. This system does not work with Economy 7 type meters usually used for storage heaters.

PROGRAMMABLE THERMOSTAT JUMPER SETTINGS

Changes to the jumper settings should be made only by the installer or other qualified person. Should changes need to be made to the default settings, these switches are located on the back of the programmable thermostat. Press reset after making any changes to initialise.

Jumper	Function
“Program”	Jumper switches between 5-2 or 7 individual days programming
“Span”	Moveable jumper for selecting temperature span of +0.5°C (default) or +1.0°C
“1,2,3,4,5,”	Removable jumpers to alter RF address codes



CONTROLLING MULTIPLE RADIATORS FROM A SINGLE PROGRAMMER

To control a series of radiators from a single programmable thermostat, some changes need to be made to the DIP switches and jumpers in order to adjust the RF address code setting. Each receiver unit can only respond to RF transmissions from a programmable thermostat that has the same RF address code setting.



Disconnect AC power to the receiver unit and remove batteries from the programmable thermostat before attempting any adjustments of the RF address code switches and jumpers. If you are not sure how to carry out this procedure correctly, please contact a qualified electrician or heating engineer.

To adjust the RF address code of any receiver unit, simply push up one or more of the five DIP switch levers on the DIP switch bank which is located on the back of the receiver unit. The levers are labelled 1-5 from the bottom to top, as shown in the picture above. To avoid confusion, make a note of the setting of each switch.

To adjust the RF address code of the programmable thermostat, remove one or more of the jumper caps located on the back of the unit (labelled 1,2,3,4,5 and shown in the picture below) so that the jumper settings match the settings made on the receiver unit.



For example, if the DIP switches on the receiver were set as follows:

- 1 - ON
- 2 - OFF
- 3 - OFF
- 4 - OFF
- 5- ON

Then you would need to remove jumper caps 2, 3 and 4 on the programmable thermostat to make sure that the codes match. Retain all jumper caps for future use. RESET must be pressed after making any changes.

TESTING THE SETUP

Upon completion of the installation it is necessary to test each receiver unit. If any one unit seems to function abnormally, try changing the RF address code of the corresponding programmable thermostat, making sure that the new RF address code is different to all others in the installation. The programmable thermostat sends On/Off signals every 10 minutes to ensure that the receiver is in the correct state. If, for some reason, the first RF signal is interrupted, you may notice the programmable thermostat has stopped or started calling for heat but the receiver hasn't switched. Simply wait 10 minutes until the next signal and the receiver should then switch correctly.

TESTING THE RF TRANSMISSION

It is important to site both the receiver units and the programmable thermostat in locations where the RF signal cannot be interrupted.

The units operate up to a range of approximately 30 metres indoors, however, structural characteristics of some buildings can affect the range. Thick walls, foil backed plasterboard, and general RF interference can cause an issue.

A 30 meter radius range is generally large enough for most household applications but it is often advisable to test the RF transmission from the intended location of the programmable thermostat and the radiators that it is to control prior to fixing the programmer to the wall. This can be achieved by following these steps:

1. Press the UP button until the target temperature is a few degrees higher than the indicated room temperature.
2. Wait for a few seconds. The heat call indicator should appear in the bottom left part of the LCD.
3. Go to the receiver unit. The green LED should be illuminated.
4. Press the DOWN button on the programmable thermostat to reduce the target temperature to a few degrees lower than the room temperature
5. Wait for a few seconds. The heat call indicator should disappear from the LCD. The green LED on the receiver should now be off.
6. If at step 3 the green LED is not illuminated, press the RESET button on the programmable thermostat place it closer to the radiator and receiver unit.
7. Repeat steps 1 to 5.

If a stable RF connection between the programmable thermostat and a receiver unit is not possible, check that the receiver unit is both switched on and has a mains power connection which is indicated by the illuminated red LED. If the red LED is illuminated, and you are still not able to achieve connection, try altering the RF address connection as described in the section above before repeating steps 1 to 5 (note that the RESET button must be pressed after altering the address code)

Operating and programming instructions, as well as radiator wall-mounting guidelines are available on request, and also from the downloads page at **www.ecopowerheating.co.uk**.

The manufacturer warrants that this item (RT500RF) will be free from manufacturing defect for a period of 2 years from date of purchase and will repair or replace defective items for this period under the terms and conditions.

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