SECURE

ThermoPlus PRT1
Programmable Room Thermostat
Installation Instructions

The ThermoPlus PRT1 - Programmable Room Thermostat Offers a number of pre-installed heating profiles which are simply set-up by the installer to provide maximum comfort to the user. Once installed, user operations are kept to a minimum by using the + / - and Warm / Cool buttons on the front of the unit.

Please ensure that the installation checklist, located within the product packaging, is completed before handing over the installation.

PLEASE NOTE: The ThermoPlus contains a selection of five pre-set profile options, one of these must be set by the Installer. It is vital that care is taken to ensure a profile is selected that suits the lifestyle of the householder concerned.

Internal and external wiring connections
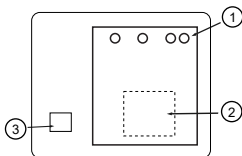
Internal Wiring Connections
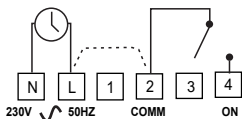
- The ThermoPlus has Voltage Free contacts.

- A link L - 2 is required for mains Voltage applications.

- The ThermoPlus PRT1 is mains operated, not battery powered.

Rear View of the ThermoPlus

1 - Connector pins
2 - Capacity label
3 - Production date label

Wiring Diagrams

An example circuit diagram for a typical combination boiler installation is shown below. This diagram is schematic and should be used as a guide only.

Please ensure that all installations comply with the current IET regulations and the boiler manufacturers installation instructions.

For reasons of space and clarity not every connection has been included and the diagram has been simplified, for instance some Earth connections have been omitted.
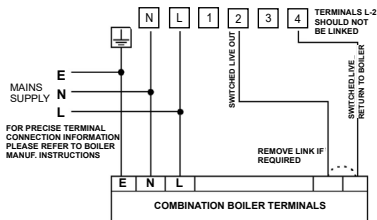

Typical combination boiler installation

INSTALLATION AND CONNECTION OF THE THERMOPLUS PRT1 SHOULD ONLY BE CARRIED OUT BY A SUITABLY QUALIFIED PERSON. ALWAYS CONSULT THE SPECIFIC BOILER MANUFACTURERS INSTALLATION INSTRUCTIONS BEFORE COMMENCING THE INSTALLATION .

WARNING : ISOLATE MAINS SUPPLY BEFORE COMMENCING INSTALLATION

Fitting the Backplate

Once the Backplate has been removed from the packaging please ensure the ThermoPlus is re-sealed to prevent damage from dust, debris etc.

The Backplate should be fitted with the wiring terminals located at the top and in a position which allows a total clearance of at least 50mm around the thermostat. The ThermoPlus should be mounted on an internal wall approximately 1.5 metres from floor level and should be in a position away from draughts, direct heat and sunlight.
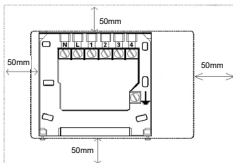
Direct Wall Mounting

Offer the plate to the wall in the position where the ThermoPlus is to be mounted, remembering that the Backplate fits to the left hand end of the thermostat. Mark the fixing positions through the slots in the Backplate, drill and plug the wall, then secure the plate in position. The slots in the Backplate will compensate for any misalignment of the fixings.

Wiring Box Mounting

The Backplate may be fitted directly on to a single gang steel flush wiring box complying with BS4662, using two M3.5 screws. ThermoPlus thermostats are suitable for mounting on a flat surface only, they must not be positioned on a surface mounted wall box or on unearthed metal surfaces.

Electrical Connections

All necessary electrical connections should now be made. Flush wiring can enter from the rear through the aperture in the Backplate. Surface wiring can only enter from beneath the ThermoPlus and must be securely clamped.

The mains supply terminals are intended to be connected to the supply by means of fixed wiring.

The ThermoPlus is mains powered and requires a 3 Amp fused spur. The recommended cable sizes are $1.0mm^2$ or $1.5mm^2$.

The ThermoPlus is double insulated and does not require an Earth connection, an Earth connection block is provided on the Backplate for terminating any cable Earth conductors.

Earth continuity must be maintained and all bare Earth conductors must be sleeved. Ensure that no conductors are left protruding outside the central space enclosed by the Backplate.

Commissioning the Thermostat

Ensure all dust and debris has been cleared away from the work area before removing the ThermoPlus PRT1 from its packaging.

Fitting the Thermostat

- If surface wiring has been used, remove the knockout/insert from the bottom of the thermostat to accommodate it.
- Loosen the two 'captive' retaining screws on the bottom of the Backplate.
- Fit the thermostat to the Backplate, ensure the lugs on the
Backplate engage with the slots on the thermostat.

End view of the thermoplus

- Swing the bottom of the thermostat into position ensuring that the connection pins on the back of the unit locate into the terminal slots in the backplate.
- Tighten the two 'captive' retaining screws to fix the unit securely.

Then switch ON the mains supply.

Reset Procedure

Please note; Using this procedure will restore the ThermoPlus to the original factory programme settings, the time setting will also default to **1st January 2005.**

Resetting the ThermoPlus PRT1

On the ThermoPlus PRT1 press the 'UP' and DOWN' arrow buttons together:

- Then release the buttons and the thermostat will return to preset factory settings.

TIME   PROG

TO RESET PRESS
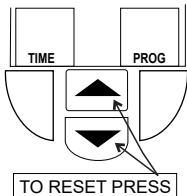
Installer Operating Guide

How it Works

Warm is shown by red lights (6) and Cool is shown by a blue light (5). The centre button (3) marked 'Warm / Cool' allows you to toggle between warm and cool settings.
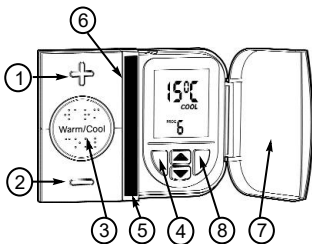
When one or more red lights are on, you can increase the temperature by pressing the '+' button (1). For example, press once to go up by 1 degree C, or press twice to go up by 2 degrees C.

When the two or three red lights are on, the temperature can also be lowered to the centre position by using the '-' button (2). For example, press once to go down to the central temperature and press again to go down to one degree below central temperature.

The Blue light means the unit is working to the lower temperature and the '+' or '-' buttons do not work when this blue light is on.

Under the flap (7) is a Blue button (4). During the summer, or when you want your central heating off for long periods, for example if you go on holiday, press the Blue button and close the flap. When you want to go back to normal operation, open the flap and press the Blue button again, remembering to close the flap once finished.

ThermoPlus Installer Mode

Once the ThermoPlus has been installed, please press buttons 4 and 8 Simultaneously to enter the installer mode, this will allow you to;

- Check the current time / date / year is correct
- Set a profile suitable for the end user
- Set new Warm / Cool temperature
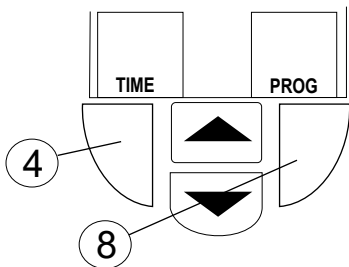
Upon completion of the instructions above, please ensure that you explain operation of this thermostat to the user and hand over the user guide as supplied.

Time and Date Check

The ThermoPlus thermostat has been pre-set with the current time and date during manufacture. No alteration should be required to the time and date, however if any modification is required please refer to the flowchart below.

```
                    ┌──────────────┐
                    │  Open Cover  │
                    └──────────────┘
                           │
         ┌─────────────────────────────────────┐
         │ Press the two outside buttons        │
         │ together to enter installer set-up   │
         └─────────────────────────────────────┘
                           │
                    ┌──────────────┐
                    │  Press Time  │
                    └──────────────┘
                           │
                    ┌──────────────┐
                    │   Press Set  │
                    └──────────────┘
```

| Minute flashes, adjust using Up/down buttons | → | Press Set | → | Hour flashes, adjust using Up/down buttons | → | Press Set |

| Date flashes, adjust using Up/down buttons | → | Press Set | → | Month flashes, adjust using Up/down buttons | → | Press set |

| Year flashes, adjust using Up/down buttons | → | Press set | → | Press exit | → | Press exit |

```
                    ┌─────────────────────────────────────┐
                    │ Press the two outside buttons        │
                    │ Together to leave installer set-up   │
                    └─────────────────────────────────────┘
```

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Heating Profile

The ThermoPlus has six heating profiles, five are fixed and one adjustable by the installer. Profile 'ONE' has been set as the default and is detailed below. During installation a heating profile should be set to best match the users requirements, illustrations of the pre-set profiles are shown below.

Profile 1

PROFILE ONE - DEFAULT	START	STATUS
EVERY DAY	00:00	WARM
	22:00	COOL

PROFILES ONE TO THREE
24 HOUR - SAME PROFILE EACH DAY

TIME PROFILE

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 00 |

Time

Profile

TEMPERATURE PROFILE
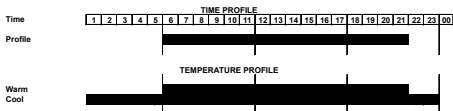
Warm
Cool

Profile 2

PROFILE TWO	START	STATUS
EVERY DAY	06:00	WARM
	08:00	COOL
	17:00	WARM
	22:30	COOL

TIME PROFILE

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 00 |

Time

Profile

TEMPERATURE PROFILE
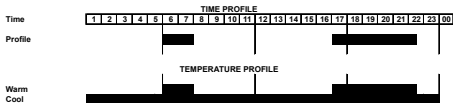
Warm
Cool

Profile 3

PROFILE THREE	START	STATUS
EVERY DAY	06:00	WARM
	08:00	COOL
	11:30	WARM
	13:30	COOL
	17:00	WARM
	22:30	COOL

TIME PROFILE

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 00 |

Time

Profile

TEMPERATURE PROFILE
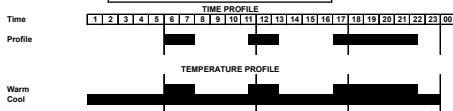
Warm
Cool

PROFILES FOUR AND FIVE
5 DAY/ 2 DAY - DIFFERENT WEEKDAY / WEEKEND PROFILE

Profile 4

PROFILE FOUR	START	STATUS		START	STATUS
MON - FRI	06:00	WARM	SAT/SUN	07:00	WARM
	08:00	COOL		22:00	COOL
	11:30	WARM			
	13:30	COOL			
	17:00	WARM			
	22:30	COOL			

TIME PROFILE

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 00 |

Time Profile
MON-FRI

SAT / SUN

TEMPERATURE PROFILE

MON-FRI
Warm
Cool
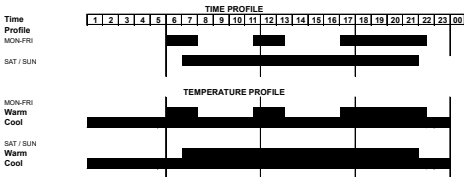
SAT / SUN
Warm
Cool

Profile 5

PROFILE	START	STATUS		START	STATUS
MON - FRI	06:00	WARM	SAT/SUN	07:00	WARM
	08:00	COOL		22:00	COOL
	17:00	WARM			
	22:30	COOL			

TIME PROFILE

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 00 |

Time Profile
MON-FRI

SAT / SUN

TEMPERATURE PROFILE

MON-FRI
Warm
Cool

SAT / SUN
Warm
Cool
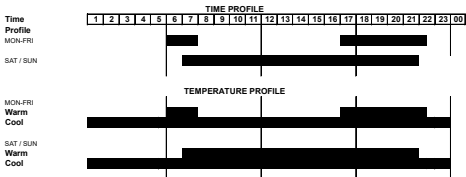
Profiles one to five have fixed periods, no alteration to the Warm/Cool times can be made, if it is necessary make any alterations then profile six must be used. Profile six will allow the installer to set up a profile to the exact requirements of the user. Please refer to the flowchart on page 13.

Setting User Profiles - One to Five

The ThermoPlus contains a selection of five pre-set profile options, one of these must be set by the Installer. It is vital that care is taken to ensure a profile is selected that suits the lifestyle of the householder concerned. The flow chart 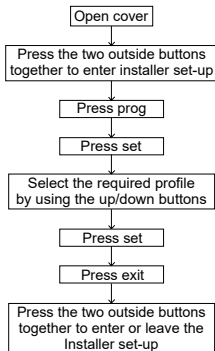below is designed to easily guide you through the process of setting the required profile. Profiles one to five are detailed on page 8 and 9 of the user guide.

PLEASE NOTE: If none of the provided profiles meet the users requirements it is possible to set a user defiled profile, full details are given on page 14 of the user guide.

```
                    ┌──────────────┐
                    │  Open cover  │
                    └──────────────┘
        ┌──────────────────────────────────────┐
        │ Press the two outside buttons         │
        │ together to enter installer set-up    │
        └──────────────────────────────────────┘
                    ┌──────────────┐
                    │  Press prog  │
                    └──────────────┘
                    ┌──────────────┐
                    │  Press set   │
                    └──────────────┘
        ┌──────────────────────────────────────┐
        │ Select the required profile           │
        │ by using the up/down buttons          │
        └──────────────────────────────────────┘
                    ┌──────────────┐
                    │  Press set   │
                    └──────────────┘
                    ┌──────────────┐
                    │  Press exit  │
                    └──────────────┘
        ┌──────────────────────────────────────┐
        │ Press the two outside buttons         │
        │ together to enter or leave the        │
        │ Installer set-up                      │
        └──────────────────────────────────────┘
```
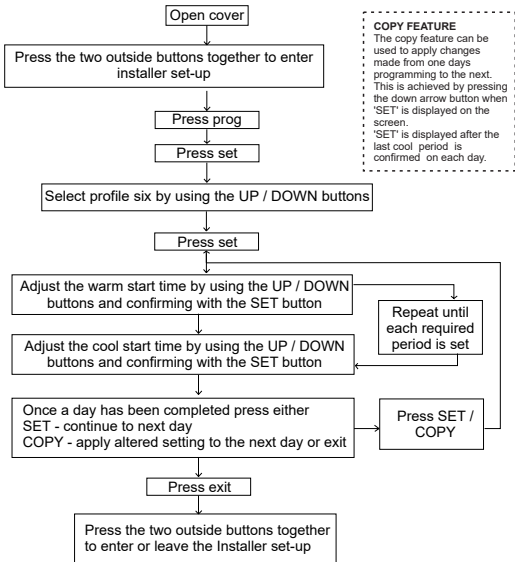
Profiles one to five have fixed programmes, they can be reviewed by pressing the set button once the selection process detailed above has been completed. To set a custom profile please refer to the instructions on page 13.

Profile Six
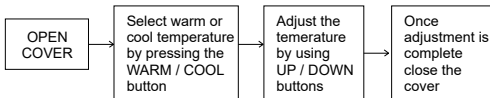**Installer Definable - 24 Hour or 7 Day Programming**

Profile six will allow the installer to set up a profile to the exact requirements of the user. By using the flow chart below you can adjust the Warm / Cool timing periods on each day of the week.

Open cover

Press the two outside buttons together to enter installer set-up

Press prog

Press set

Select profile six by using the UP / DOWN buttons

Press set

Adjust the warm start time by using the UP / DOWN buttons and confirming with the SET button

Adjust the cool start time by using the UP / DOWN buttons and confirming with the SET button

Repeat until each required period is set

Once a day has been completed press either
SET - continue to next day
COPY - apply altered setting to the next day or exit

Press SET / COPY

Press exit

Press the two outside buttons together to enter or leave the Installer set-up

COPY FEATURE
The copy feature can be used to apply changes made from one days programming to the next. This is achieved by pressing the down arrow button when 'SET' is displayed on the screen.
'SET' is displayed after the last cool period is confirmed on each day.

Warm and Cool Temperature Adjustments

The ThermoPlus has two preset temperature levels, these are known as 'Warm', higher level temperature (21°C) and 'Cool', lower or set back temperature (15°C). The preset temperatures have been selected to give a comfortable, safe, yet efficient comfort level in the home.

In certain installations it may be necessary to adjust either the 'Warm' and / or 'Cool' temperatures to meet the specific needs of the user. This can be achieved by following the simple steps below;

| OPEN COVER | → | Select warm or cool temperature by pressing the WARM / COOL button | → | Adjust the temerature by using UP / DOWN buttons | → | Once adjustment is complete close the cover |

PLEASE NOTE: It is not necessary to enter the installer mode to adjust the temperature settings.

General Information

Before handing over the installation to the user, always ensure that the system responds correctly on all control programmes and that other electrically operated equipment and controls are correctly adjusted.

EXPLAIN HOW TO OPERATE THE CONTROLS AND HAND OVER THE USERS OPERATING INSTRUCTIONS TO THE USER.

Specification ThermoPlus PRT1

Electrical

Purpose of Control	Electronic Programmable Thermostat (Independently Mounted)
Supply	230V AC %0Hz. With lithium battery reserve
Contact Rating	3(1)Amps (230 V AC)
Contact Type	Micro-Interruption
Insulation	Class II
Control Action	1B
Operating Time Limitation	Intermittent
Software Class	Class A
Temperature Control Range	5˚C - 30˚C (1˚C Steps)
Temperature Accuracy at 20˚C	± 0.25˚C (Wet Central Heating System)
Temperature Differential (Hysteresis)	<0.5˚C (At 4˚C/hour)
Display	LCD
Clock	24 Hour (1 minute steps)
Switch time Adjustment	15 minute steps
Programme Selection	Auto/Standby
Operating Periods	3
Override	Instant Warm/Cool

Mechanical

Dimensions	120mm x 90mm x 32mm
Case Material	Thermoplastic, flame retardant
Ball Pressure Test Temperature	75˚C
Mounting	Independently wall mounted wallplate, or onto a flush single gang wiring box (to BS4662)

Environmental

Impulse Voltage Rating	Cat II 2500V
Enclosure Protection	Ip30
Pollution Degree	Degree 2
Operating Temperature Range	0˚C to +40˚C
Erp Directive Class	Class I (1%)

Compliance

Design Standards	EN 60730-2-9, BS EN 60730-1, BS EN 60730-2-9