ELECTRAFLOW CONTROLLER

USER INSTRUCTIONS
INTRODUCTION

This Controller has been specifically developed for the Electraflow heating system to efficiently provide you with both hot water and central heating at times tailored to meet the needs of your household.

With Economy 2000, through a 24 hour period there are 18 hours of low tariff electricity available. The shutdown periods are shown below – No boost available during these times. The Thermal Store will be heated by low cost off-peak electricity, available for use for heating and hot water. Hot Water should be set to on for all the ON periods. Depending on your heating requirements, the programmer should be set to come on during the appropriate periods when the low tariffs are available. For all other tariffs consult your Electricity Provider for the low rate timings.

The shut down periods are:

- 00:00 - 02:00am
- 08:00 - 10:00am
- 16:30 - 18:30pm

The central heating is heated by electric power. The Controller provides a 7-day programmable timer to turn on the central heating, up to three times each day of the week. For your convenience a heating Advance feature is also provided to allow easy extension of the programme times.

USER CONTROLS

The Controller has a backlit display and two LED indicators to show the system status during normal operation. The display is also used to change the controller’s settings via an easily accessible configuration menu.

During normal operation, the Boost key is used to enable hot water Boost and the Up key is used to enable the central heating Advance feature. The Left key is used to set the CH mode of operation and the Right key sets the HW mode.
BUILT IN PROGRAMME

The Installer should have set the controller during installation, to follow the off-peak tariff offered by your electricity provider and your requirements. In the event that your electricity provider changes your off-peak tariff, please contact your Heating Engineer.

GENERAL FUNCTIONALITY

During normal operation the first line of the Controller’s display shows the current time, whilst the second line alternately shows the status of the hot water (HW) and central heating (CH) followed by the current day and date:

![Diagram showing time and status]

The following table lists the hot water (HW) and central heating (CH) status messages:

<table>
<thead>
<tr>
<th>Hot Water Status</th>
<th>Description</th>
<th>Central Heating Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HW → Off</td>
<td>Hot Water is off</td>
<td>CH → Off</td>
<td>Central Heating is off</td>
</tr>
<tr>
<td>HW → On</td>
<td>Hot Water timer is active.</td>
<td>CH → On</td>
<td>Central Heating timer is active.</td>
</tr>
<tr>
<td>HW → 115</td>
<td>Hot Water Boost will remain on for a further ‘115’ mins.</td>
<td>CH → Adv</td>
<td>Central Heating timer has been Advanced.</td>
</tr>
</tbody>
</table>

Note the symbol ✓ when displayed means that the thermostats of the associated heater are calling for heat.

The two indicators labelled ‘HW’ and ‘CH’ provide the following status information:

<table>
<thead>
<tr>
<th>Hot Water Status</th>
<th>Description</th>
<th>Central Heating Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED</td>
<td>Description</td>
<td>LED</td>
<td>Description</td>
</tr>
<tr>
<td>ON</td>
<td>Hot Water timer or Boost is on</td>
<td>ON</td>
<td>Central Heating timer is on or CH has been Advanced</td>
</tr>
</tbody>
</table>
SELECTING THE OPERATING MODE

The Controller has 3 operating modes for both the CH and the HW control, and these are selected directly from the keypad.

The CH operating mode is selected using the Left key, with each key press changing the operating mode to the next available setting:

<table>
<thead>
<tr>
<th>CH Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OFF</strong></td>
<td>Disables all the CH 7 day timers. The CH Advance is still functional.</td>
</tr>
<tr>
<td><strong>Timed</strong></td>
<td>The CH 7 day timers and CH Advance are functional</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>The CH is on continuously</td>
</tr>
</tbody>
</table>

The HW operating mode is selected using the Right key, with each key press changing the operating mode to the next available setting:

<table>
<thead>
<tr>
<th>HW Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OFF</strong></td>
<td>Disables the HW 24hr timer. The HW Boost is still functional.</td>
</tr>
<tr>
<td><strong>Timed</strong></td>
<td>The HW 24hr timer and HW Boost are functional</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>The HW is on continuously</td>
</tr>
</tbody>
</table>

For the majority of people the Controller’s CH Mode and HW Mode will always be set to Timed. It is common practice to turn off the Central Heating timers during the summer months by setting CH Mode to OFF. Both CH Mode and HW Mode may be required to be set to OFF if the dwelling is empty for any length of time.

**Note:** HW Boost is available even when the Hot Water timer is off; and the CH Advance is available even when the Central Heating timer is off.

CONFIGURATION MENU

To enter the Configuration menu press the up and down cursor keys simultaneously.

Once in the menu, the four navigation keys together with the Boost key are used to review and revise the settings. The left and right cursor keys are used to traverse the menu items and sub-menu items (where applicable). The Boost key is used to view menu items and to select sub-menus (where applicable).

When a menu item is viewed the current option setting will appear flashing. The up and down cursor keys are used to scroll through the selection options available. To select an option, press the Boost key.

The items contained in the menu are as follows:

<table>
<thead>
<tr>
<th>Menu Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date</strong></td>
<td>To set the current date</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>To set the current time</td>
</tr>
<tr>
<td><strong>CH Timer</strong></td>
<td>To set the central heating 7-day timer, On and Off times for each day of the week</td>
</tr>
<tr>
<td><strong>Exit</strong></td>
<td>Return to normal Controller operation</td>
</tr>
</tbody>
</table>

**Note** whilst in the menu, if no keys are pressed for a period of approximately 30 seconds, then the controller will automatically exit back to normal operation.
SETTING THE DATE AND TIME

Note:
It is important that the date is set before attempting to set the current time. If the date is incorrect the user may find that they have to change the time again after setting the date as the GMT/BST setting may change.
(GMT/BST = Greenwich meantime/British Summertime)

The item Set Date is used to set the calendar (day-of-month, month and year). The Controller automatically switches between GMT and BST at the appropriate date and time during the year.

The year or day-of-month will flash to show which item is currently being changed. The left and right keys will change from year to day-of-month and back again. To change the year or day-of-month the up and down keys will increase or decrease the current setting. When the date is set, the day (Mon – Sun) should be checked and if correct pressing the Boost button will save the settings.

Also the year should be checked and/or changed before the day-of-month is set. If the year is wrong while setting the day-of-month the calculated day of the week may be incorrect.

The item Set Time is used to set the Controller’s clock. The display shows the current time setting on the first line. The hour or minute digits will be flashing to show they are the current item. The second line will indicate this by displaying ‘Hrs’ or ‘Mins’. Use the Left and Right cursor keys to select between the hours and minutes.

The Up and Down cursor keys are used to increase or decrease the time. N.B. holding either key down will cause the numbers to auto-scroll.

To confirm the entered time setting, press the Boost key.
CHANGING THE PROGRAMME TIMES

The Controller’s Central Heating 7-day timer has three time periods for each day of the week. Each time period can be set at minimum intervals of 5 minutes.

The Controller will prevent the On and Off times from being entered in the wrong order. Attempting to move the On time past the associated Off time, will cause the Off time to move as well.

The Controller will not allow the three on-time periods to overlap. If the displayed On or Off time flashes ‘LIMIT’ while the time is being changed it indicates an incorrect time setting is being attempted. Incorrect times could be:

- On time cannot be set before midnight of the current day.
- On time is clashing with the next period On time.
- On time cannot be set past midnight of the current day.
- Off time cannot be set before the On time in the current period.
- Off time cannot be set after the On time of the next period.

If a timing clash occurs while setting the time period, the incorrect time must be altered before the current setting can be correctly entered.

The 3rd time period on any day may be extended into the next day. The Controller will not allow this period to overlap the next day’s time periods.

The menu item CH Timer is used to configure the Controller’s CH timer; which has three time periods for each day of the week.

On entry the display shows the current day on the first line. The ‘day’ will be flashing to show it is the current item. Use the Left and Right keys to select a specific day. To view and edit that day’s time periods, press the Boost key.

Note that any specific on-time period is disabled by setting the On and Off times to exactly the same time.

On selecting a specific time setting, the display shows the time period ‘1st’, ‘2nd’ or ‘3rd’ and the On time setting on the first line. The period Off time is displayed on the second line.

Use the Left and Right cursor keys to move between each of the On and Off times. As each time becomes the current item, the digits will be flashing and the symbol ‘$’ will be positioned next to it. Using the Left and Right keys also moves between each available time period as shown below:

![Time Period Diagram]

The Up and Down cursor keys are used to increase or decrease the selected time in 5 minute intervals. N.B. holding either key down will cause the numbers to auto-scroll.
To confirm the entered timer settings, press the Boost key. Once confirmed another day can be selected.

At any time whilst in a timer setting, pressing the up and down cursor keys simultaneously will cause you to exit the menu, and place the controller back in Status display mode. Any changes made to the time setting will be saved.

**HOT WATER BOOST**

The Hot Water may be turned on for a fixed time period of 30, 60 or 120 minutes using the Boost button. Each consecutive press of the HW Boost Button will change the time period to the next available setting as shown below.

```
Boost! OFF  Boost! ON 30
      Boost! ON 120  Boost! ON 60
```

**Note** that the Boost button is disabled whilst the Hot Water timer is on.

When the Boost is on it can be cleared by a single press of the Boost button.

**CENTRAL HEATING ADVANCE**

The CH timer settings may be manually advanced using the CH Advance button (the UP key). The advance function is initiated by briefly pressing the UP key.

This will turn the Central Heating on if it was in an off period and vice versa. It will stay in this state until either Advance is pressed again or until the next timed On/Off event.

The display will indicate when the Advance is operational (CH ➤ A d v).

**POWER INTERRUPTION**

The Controller uses a long-life non-rechargeable battery which will maintain the configuration settings without any mains electricity supply. This will provide cover for all unexpected power interruptions during the life of the Controller.

**REPAIR AND SERVICE**

The Controller is NOT user serviceable.

Do not dismantle the Controller.

The Controller has several in-built safety features to ensure that it functions correctly. In the unlikely event of a fault developing please contact your installer or a qualified electrician.
This product complies with the following EC Directives: 
(EMC) (89/336/EEC), (92/31/EEC) 
Low Voltage Directive. 
(LVD) (72/23/EEC), (93/68/EEC)