ES1247

1 Channel Programmer

ESi **User and Installation Instructions**

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**User
Instructions**
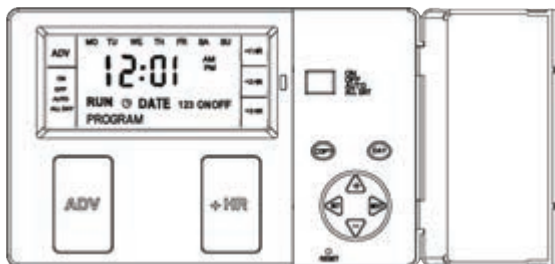
What is a Channel Programmer?...
An explanation for householders

Programmers allow you to set 'On' and 'Off' time periods. Some models switch the Central Heating and domestic Hot Water on and off at the same time, while others allow the domestic Hot Water and Heating to come on and go off at different times. Set the 'On' and 'Off' time periods to suit your own lifestyle.

On some programmers you must also set whether you want the Heating and Hot Water to run continuously, run under the chosen 'On' and 'Off' heating periods, or be permanently off. The time on the programmer must be correct. Some types have to be adjusted in Spring and Autumn upon the changes between Winter and Summer time.

You may be able to temporarily adjust the heating programme, for example, 'Override','Advance' or 'Boost'. These are explained in the manufacturer's instructions. The heating will not work if the room thermostat has switched the heating off. And, if you have a Hot Water cylinder, the water heating will not work if the cylinder thermostat detects that the Central Hot Water has reached the correct temperature.

Introduction to the 1 Channel Programmer

This programmer can automatically switch your Central Heating or Hot Water ON and OFF up to 3 times a day, at whatever times you choose. Timekeeping is maintained through power interruptions by a non replaceable battery designed to last for the lifetime of the programmer and the clock is automatically put forward 1 hour at 1:00am on the last Sunday of March and back 1 hour at 2:00am on the last Sunday of October. The clock is factory pre-set to UK time and date, but you can alter it if you wish. During installation, the installer selects 24 hour, or 5 day/ 2day, or 7 day programming and 2 or 3 on/off periods per day, via a 4 position DIP switch on the back of the unit (see installation instructions).

The large, easy to read display makes programming easy and the unit is designed to eliminate the possibility of accidental changes to your programme. Buttons normally visible, only affect your set programme temporarily. All buttons which can permanently change your programme are located behind the flip over facia.

- The 24 hour programmer option runs the same programme every day.
- The 5/2 Day programmer option allows different ON/OFF times at weekends.
- The 7 Day programmer option allows different ON/OFF times for each day of the week.

IMPORTANT: These settings should only be changed by a qualified person. Contact your installer. This programmer is not suitable for the switching of devices greater than 6Amp rated. (e.g. Not suitable for use as an immersion timer)

Programming the Unit

The Factory-Set Programme

This is the factory-set programme built into the unit. If the user changes from the factory-set programme and wishes to return to it, pressing the reset button with a non metallic pointed tool will return the unit to the factory-set programme. **NB.** Every time the reset is pressed, the time and date must be set again (page 8).

Configuration 2PU & 2Gr	Configuration 3PU & 3Gr	Mon-Fri	Sat-Sun
1st ON	1st ON	06:00am	07:00am
1st OFF	1st OFF	08:30am	09:00am
—	2nd ON	12.00noon	12.00noon
—	2nd OFF	12.00noon	12.00noon
2nd ON	3rd ON	04:30pm	04:30pm
2nd OFF	3rd OFF	10.30pm	11.00pm

If the unit is installed as a 24 hour programmer the built in programme will be the same for each day (i.e. Sat-Sun be same as Mon-Fri above).

Changing The Programme (refer to Fig.1, Page 4)

For 7 Day Programmer Option - the initial programme displayed will be for Monday. You can go to any day of the week by pressing the DAY button repeatedly. The COPY button will copy the current programme onto the next day. **NB.** It is not possible to copy Sunday to Monday.
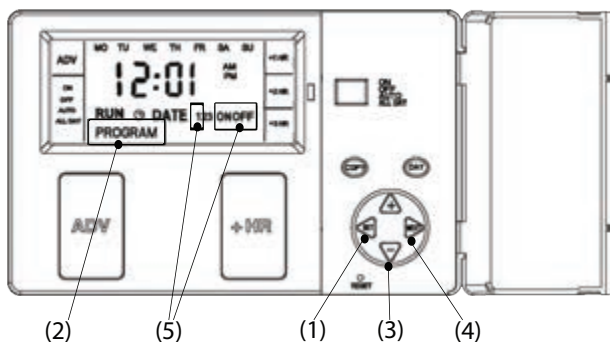
For 5/2 Day Programmer Option - the initial programme displayed will be for Monday - Friday. Press the DAY button for Saturday - Sunday programme. The COPY button will copy the current programme onto the next day group. **NB.** It is not possible to copy Saturday-Sunday programme to Monday-Friday programme.

For 24 Hour Programmer Option - the built in programme will be the same for each day. The COPY & DAY buttons have no effect if installed as a 24 hour programmer.

To change the Programme times

1. Press the SET button (1) four times until the programme icon (2) flashes, and the first ON time appears.

2. Press the +/- buttons (3) to adjust the ON time. Please note, the time will change quicker if pressed continually.

3. Press the NEXT button (4). The display will now show 1 OFF (5).

4. Press the +/- buttons (3) to adjust the OFF time. Please note, the time will change quicker if pressed continually.

5. Press the NEXT button (4) to access the remaining ON/OFF periods and adjust in the same manner as above.

6. To return to RUN mode, press the SET button (1) until the display indicates RUN on the display.
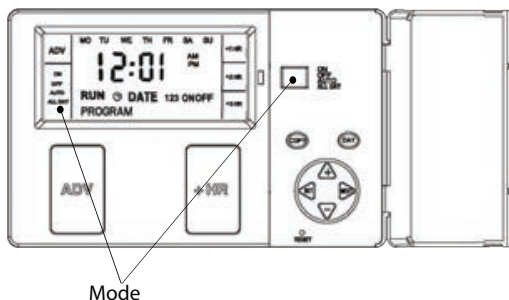

Fig. 1

N.B: Programming is in 10 minute segments.

Operating the Unit
Choosing the Operating Mode

Mode

ON : Central Heating and Hot Water is **ON** continuously

AUTO: Central Heating and Hot Water will be switched **ON** and **OFF** in accordance with set programmes

ALL DAY: Central Heating and Hot Water will switch **ON** at the first **ON** and switch **OFF** at last **OFF**

OFF: Central Heating and Hot Water will be permanently **OFF**

Using the Advance Function

The ADVANCE function allows the user to move to the next ON/OFF programme for a "one off" event, without having to change the programme or use the ON or OFF buttons.

NB: The ADVANCE function is only available when the programme is in AUTO or ALL DAY operating modes.

To Advance Central Heating and/or Hot Water

Press the ADV (1) button. This will turn the Central Heating (and/or Hot Water) ON if it is in an OFF period and OFF if it is in an ON period. It will stay in this state until either the ADV button (1) is pressed again, or until a programmed ON/OFF period commences. The word ADV will appear in the left hand side of the LCD.
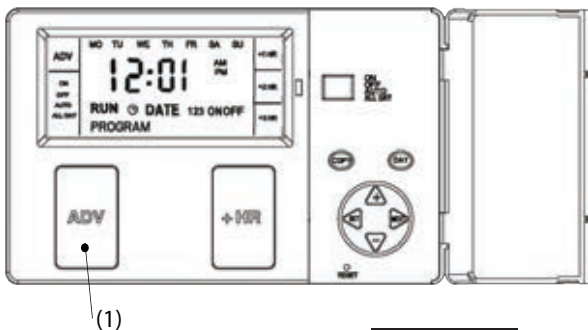

Fig. 2

Using the +HR Boost Function

The +HR function allows the user to have up to 3 hours of extra Central Heating or Hot Water, without having to change the programme or use the ON or OFF buttons.

NB: The +HR function is only available when the programme is in AUTO, ALL DAY or OFF operating modes. If the programmer is in AUTO or ALL DAY mode when the +HR button is pressed and the resulting time of the boost overlaps a START/ON time, the boost will disengage.

To +HR Boost Central Heating and/or Hot Water

Press the +HR button (2). One press of the button will give one extra hour of Central Heating (and/or Hot Water); two presses of the button will give two extra hours; three presses of the button will give the maximum three extra hours. Pressing it again will switch off the +HR function. The + 1HR , +2HR or +3HR status of each zone will appear on the right of the display.
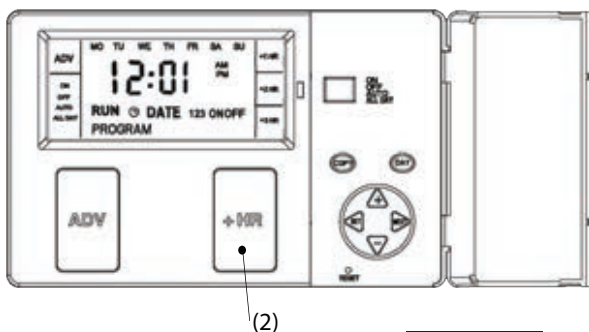

Fig. 3

Basic Settings

Setting the Time (refer to fig.4)

1. Press the SET button (1) once. The configuration setting will appear on the screen. (E.G. 2PU)

2. Press the SET button (1) again. The clock icon (2) on the screen will flash.

3. Press the +/- buttons (3) to adjust the time. The time will change quicker if pressed continually.

4. Press SET (1) once to move on to setting the DATE or press multiple times to return to RUN mode.

Setting the Date (refer to fig.4)

1. Press the SET button (1) until the Y:XX icon (Year) appears and the D (DATE) icon (4) flashes.

2. Press the +/- button (3) to set the year.

3. Press NEXT button (5). M:XX appears (Month).

4. Press +/- button (3) to set month.

5. Press NEXT button (5). D:XX appears (Day).
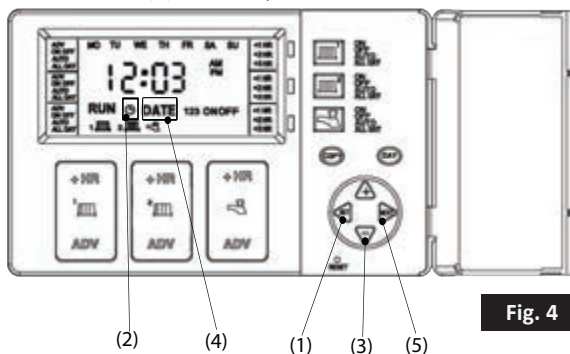
6. Press +/- button (3) to set day.

Fig. 4

(2)　(4)　(1)　(3)　(5)

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Setting the Backlight

The backlight can either be set permanently ON or OFF. The programmer backlight is pre-set to be permanently OFF. When the backlight is permanently OFF, the backlight will turn ON for 15 seconds when + or – button is pressed, then turn OFF automatically. To change setting to permanently ON, press SET repeatedly until L IR is displayed. Press + or – to turn backlight ON or OFF. Press SET to confirm.

NB: Do not use Advance or +HR Boost Button to activate the backlight as it may engage the Advance or +HR facility and turn on the boiler. Only use + or - button under facia cover.

Resetting the Unit

Press the reset button with a non-metallic pointed tool to reset the unit. This will restore the built in programme and also reset the time to 12:00pm and the date to 01/01/2000. Initially the display shows all segments lit for a few seconds, but then will show the current configuration. To set the time and date, please refer to page 8.

NB: As a safety feature after resetting the unit will be in OFF operating mode. Reselect your required operating mode (page 5). Use of excessive force may result in the reset button sticking behind the front cover of the programmer. If this happens the unit will "freeze" and the button can only be released by a qualified installer.

Power Interruption

In the event of a mains supply failure the screen will go blank but the back-up battery ensures that the programmer continues to keep the time and retain your stored programme. When power is restored, if there has been no change to the rear DIP switch, the programmer then goes to RUN mode. If the configuration setting on the rear DIP switch has been altered during the power interruption the screen will initially show the new configuration and the appropriate factory default programme will be installed. Press SET button to return to RUN mode.

**Installation
Instructions**

Technical Data

Power Supply	230V AC, 50Hz
Operating Temperature	0°C to 35°C
Switch Rating	230V AC, 6(2)A SPDT
Battery Type	Lithium Cell CR2032
Enclosure Protection	IP30
Plastics	Thermoplastic, flame retardant
Insulation Class	Double
Wiring	For fixed wiring only
Back Plate	Industry standard
Dimensions	140mm x 87mm x 37mm
Clock	12 hour am/pm, 1 minute resolution
BST/GMT time change	Automatic
Clock Accuracy	+/- 1 sec/day
Programme Cycle	24hr, 5/2day or 7day selectable
Programme On/offs per day	2 on/off, 3on/off selectable
Programme Selection	Auto, On all day, On constant, Off
Programme Override	+1,2 or 3Hr, Advance
Heating System	Pumped
Complies with	EN60730-1, EN60730-2.7, EMC Directive 2004/108/EC, LVD Directive 2006/95/EC

Installation Safety Instructions

The unit must be installed by a suitably qualified person in accordance with the latest IEE Wiring Regulations.

Isolate mains supply before commencing installation. Please read all instructions before proceeding.

Ensure that the fixed wiring connections to the mains supply is via a fuse rated at not more than 6 amps and class 'A' switch having a contact separation of a minimum of 3mm in all poles. The recommended cable sizes are 1.0mm sqr or 1.5mm sqr.

No earth connection is required as the product is double insulated but ensure continuity of earth throughout the system.

If the unit is fitted to a metal surface, IT IS ESSENTIAL that the metal be earthed. DO NOT use a surface mounting box.

NEVER fit or remove the unit to a live wall-plate.

Maintenance

Always isolate the mains supply before commencing any work, servicing or maintenance on the system. And please read all instructions before proceeding.

Arrange for an annual maintenance and inspection schedule to be carried out by a competent person on every part of the heating and hot water system.

Safety Notice

WARNING!
ALWAYS ISOLATE THE AC MAINS SUPPLY BEFORE INSTALLING.
THIS PRODUCT MUST BE FITTED BY A COMPETENT PERSON, AND INSTALLATION MUST COMPLY WITH THE GUIDANCE PROVIDED IN THE CURRENT EDITIONS OF BS767 (IEE WIRING REGULATIONS) AND PART "P" OF THE BUILDING REGULATIONS.

Pre-Installation Unit Set Up

Before installing, set the bank of 4 DIP Switches on the back to configure the unit according to the chart below:

Not Used		Not Used
24 Hr		7 Day
		5/2 Day
2 On/Off		3 On/Off

(DIP Switches shown in Factory Default Positions.

24 Hr: runs the same programme every day.

5/2 Day: allows different on/off times at weekend.
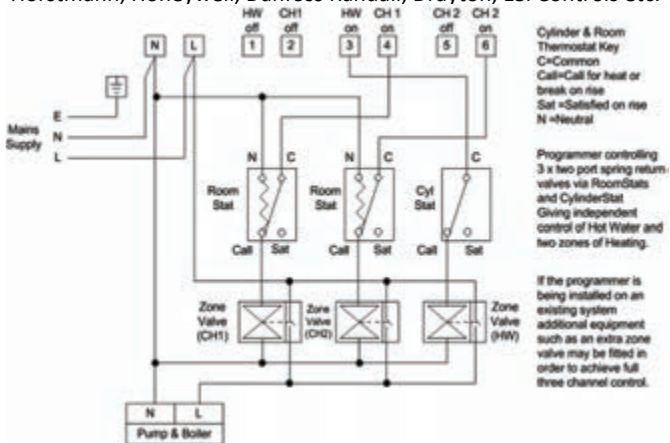
7 Day: allows different on/off times every day.

Fitting the Back Plate

1. Position the wall-plate (terminals along top edge) with 60mm (min) clearance to its right, 25mm (min) above, 90mm (min) below. Ensure that the supporting surface will fully cover the back of the programmer.

2. Offer the back plate to the wall in the position where the programmer is to be mounted, remembering that the back plate fits to the left side of the programmer. Mark the fixing positions through the slots in the back plate, drill and plug wall, then secure back plate in position.

3. All necessary electrical connections should now be made. Ensure that the wiring to the wall-plate terminals leads directly away from the terminals and is completely enclosed within the wall-plate aperture. Wire ends must be stripped and screwed to the terminals so that minimal bare wire is showing.

New Installations

Example circuit diagram for a typical 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 IEE regulations.
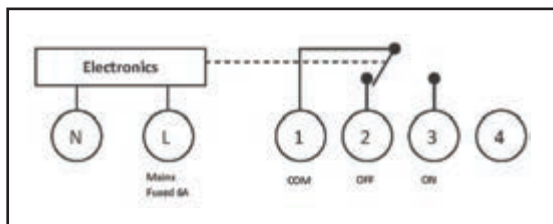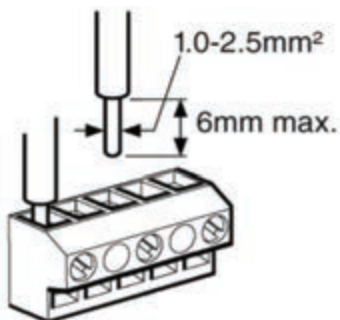
For reasons of space and clarity the diagram has been simplified. For instance some Earth connections have been omitted. Other control components shown in the diagram i.e. Valves, Room Stats etc are general representations only. However, the wiring detail can be applied to the corresponding model of most manufacturers e.g. Horstmann, Honeywell, Danfoss Randall, Drayton, ESi Controls etc.

Cylinder & Room Thermostat Key
C=Common
Call=Call for heat or break on rise
Sat =Satisfied on rise
N =Neutral

Programmer controlling 3 x two port spring return valves via RoomStats and CylinderStat Giving independent control of Hot Water and two zones of Heating.

If the programmer is being installed on an existing system additional equipment such as an extra zone valve may be fitted in order to achieve full three channel control.

Existing Installations

1. Remove old programmer from its back plate mounting loosening any securing screws as dictated by its design.

2. Check compatibility of existing back plate & wiring arrangement with that of the new programmer. See online Programmer Replacement Guide for direction.

3. Make all necessary changes to back plate & wiring arrangement to suit new programmer.

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Wiring Diagram

Fitting the Programmer

Loosen the two 'captive' retaining screws on the bottom of the back plate.

Now fit the programmer to the back plate, ensuring the lugs of the back plate engage with the slots on the programmer.

Swing the bottom of the programmer into position ensuring the connection pins on the back of the unit locate into the terminal slots in the back plate.

Tighten the two 'captive' screws to fix the unit securely.

Commissioning

Switch on mains supply. Referring to the user guide:

1. Use the buttons to ensure correct product functionality.

2. Set timing and programme details in accordance with customer requirements.

3. Normally unit will be left with channel in 'Auto' mode.

4. Set backlight either permanently ON or OFF in accordance with customer requirements (refer to Setting the Backlight, page 9).

5. Leave these installation instructions with customer for reference.

Configuration

When setting time, date or changing programme times the first screen displayed indicates the configuration.

Configuration	Display	Programme Notes
2 ON/ OFF Pumped system	2PU	Times for Central Heating and Hot Water can be independently set.
3 ON/ OFF Pumped System	3PU	Times for Central Heating and Hot Water can be independently set.
2 ON/ OFF Gravity system	2Gr	Times for Central Heating and Hot Water can be independently set. But Heating CH1 will always bring Hot Water and CH2 ON.
3 ON/ OFF Gravity system	3Gr	Times for Central Heating and Hot Water can be independently set. But Heating CH1 will always bring Hot Water and CH2 ON.

The 24 hour, 5 day/2day, or 7 day programming options as set up by the installer can also be verified at this stage by how the Monday to Sunday indicators are displayed.

Programming Option	Monday to Sunday Indicators Flash
7 DAY	Mon to Sun individually shown
5/2 DAY	Mon to Fri together then Sat & Sun together shown
24 HOUR	Mon to Sun together shown

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