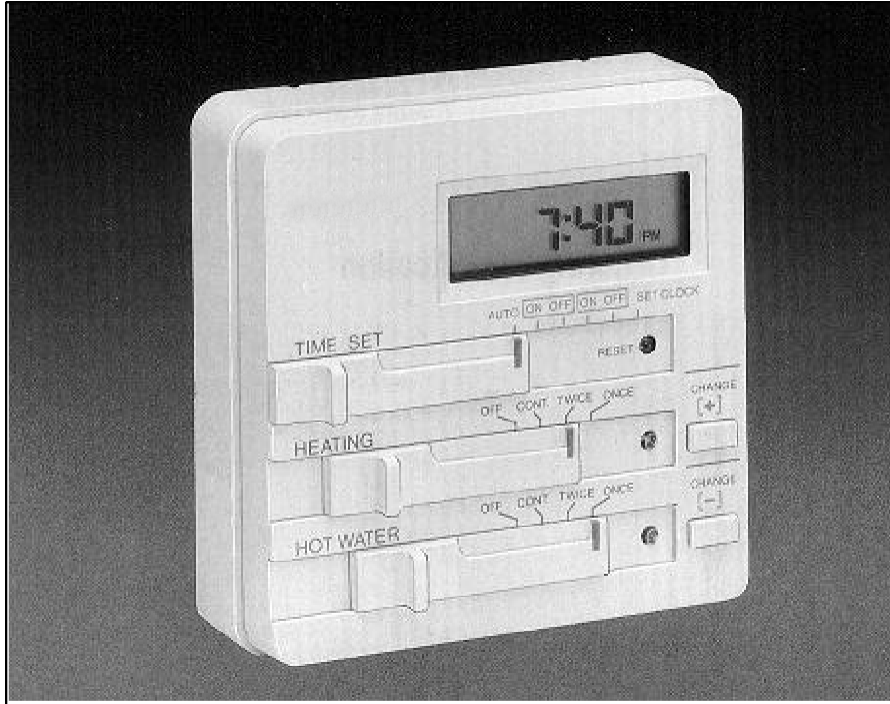


ST699

ELECTRONIC DUAL ZONE TIMER

PRODUCT DATA



The ST699 electronic dual zone timer is used to control gravity, primary or fully pumped central heating systems requiring a single 24 hour programme with two ON/OFF periods per day.

ST699 incorporates a simple and intuitive programming concept which established its predecessor as the leading electronic dual zone timer on the market.

ST699 is designed for European CEN approval.

FEATURES

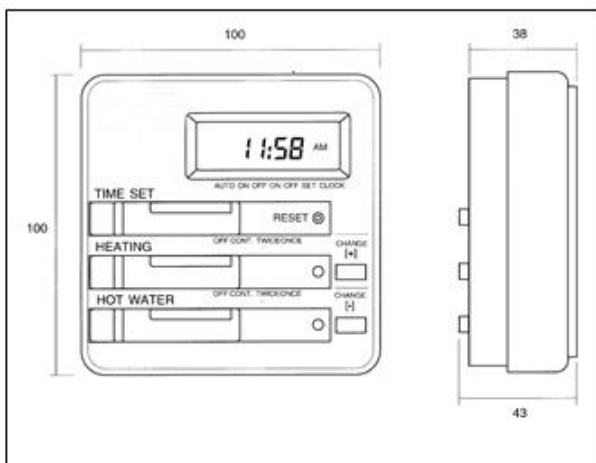
- 24-hour programme
- Independent heating and hot water channels
- One or Two ON/OFF periods per day
- Built-in programme
- Temporary programme override/advance
- 7-day battery back-up
- Compact size
- AM/PM or 24 hour clock format (factory option)
- Wallplate compatibility with 7-day version (ST799)
- 10 minute programme resolution
- 3 A resistive/inductive (@ 0.6 pf) 230 V~ SPDT relay rating
- Simple/intuitive programming
- Surface or wallbox mounting options
- Pack contains everything for immediate installation

SPECIFICATIONS

Product type	: Electronic dual zone timer
Power supply	: 230 V~ ($\pm 10\%$), 50 HZ
Power reserve	: Rechargeable battery with 7 days backup following a 24 hour charging period
Switch rating	: 2 x SPDT potential free 3 A resistive @ 230 V~ ($\pm 10\%$), 50 Hz 3 A inductive @ 0.6 pf
Programme	: 24-hour with two ON/OFF periods daily
Programme resolution	: 10 minutes
Programme day	: 03.00 AM to 02.50 AM (on the next day)
Override	: Advance next programme time (change)
Wiring	: Surface or single wallbox (UA1 size)

Wiring access	: Rear or bottom edge (surface wiring access)
Wire gauge	: 0.75 to 2.5 mm ² two max. per terminal
Dimensions	: 100 x 100 x 38 mm (w x h x d)
Protection class	: IP20 (IEC529)
Environmental	: Operating temperature range 0 to 45°C Shipping and storage temperature range -20 to 55°C Humidity range 0 to 90% rh, non-condensing
Approvals	: Designed to meet European CEN approval EN60730
Life	: 7 years minimum

DIMENSIONS



ORDERING SPECIFICATION

ST699B1002

INSTALLATION

Mounting

Remove the subbase from the timer by depressing the securing clip A and pulling the two halves apart. See fig. 1

The ST699 can either be mounted onto the wall surface or a flush mounted UA1 (with 60.3 mm pitch mounting holes) using the screws supplied.

IMPORTANT

1. The installer must be a trained service engineer
2. Disconnect the power supply before beginning installation

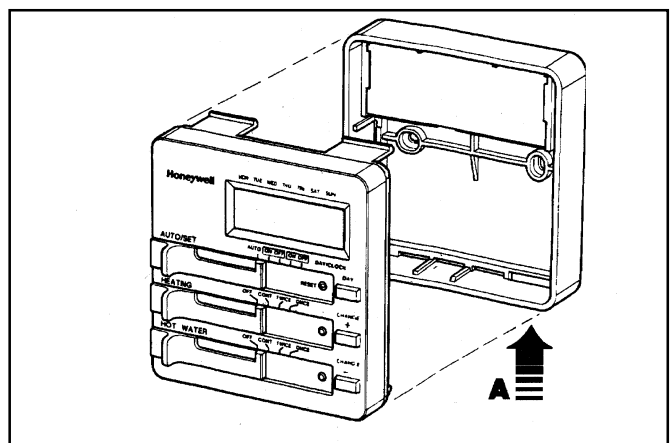


Fig. 1

WIRING

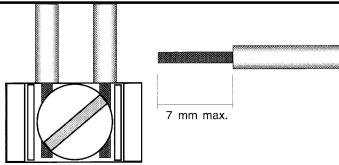
Cable entries can be made through the opening in the rear of the subbase, or via the three surface entry break-outs in the top and two sides of the wallplate. See fig. 2

The ST699 is designed for fixed wiring only and must be wired in accordance with the latest IEE wiring regulations.

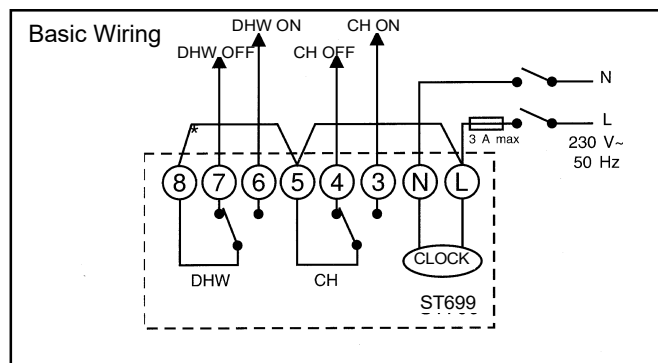
Ensure the wiring connections to the mains supply is via a fuse rated at not more than 3 A and a Class "A" switch (having contact separation of at least 3 mm in all poles).

Remove the terminal cover to allow access to the wiring terminals as shown in fig.2. Connect the systems wiring as shown by the specific applications wiring diagram. A maximum of two 2.5 mm² (cross sectional area) wires can be connected to each terminal as shown in fig.3. Each wire should be stripped of insulation to a length no greater than 7mm to safeguard against the possibility of electrical shorts.

Fig. 3



Systems Wiring



*A link must be provided between L-5-8 on the subbase of ST699 for all Sundial Plans, or fully controlled pumped primary systems

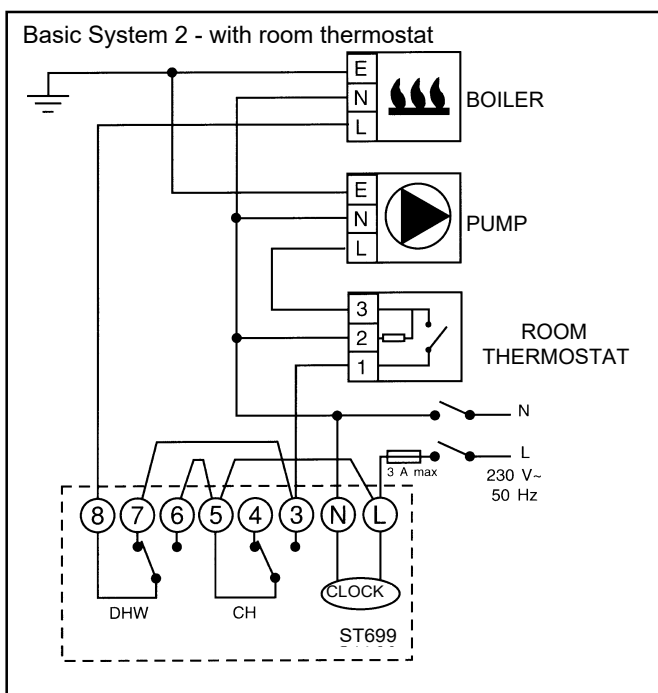
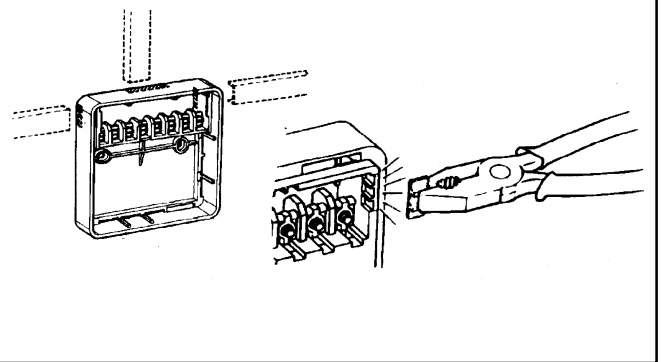
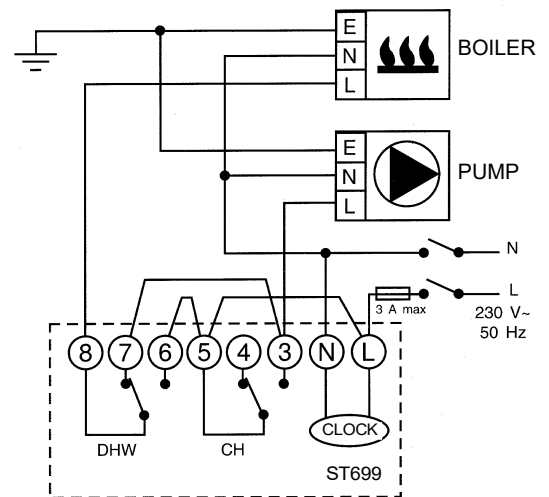


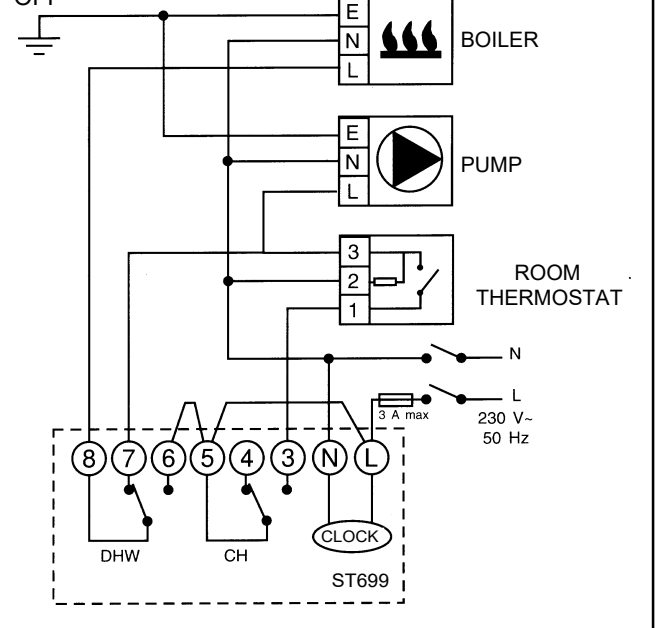
Fig. 2



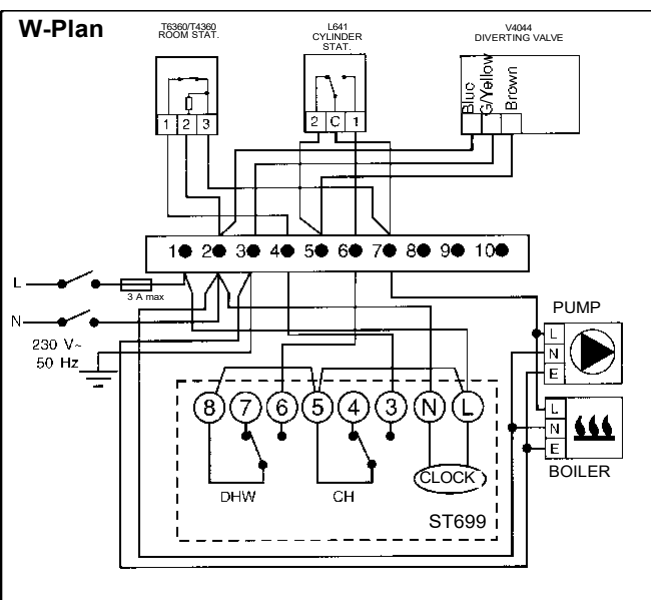
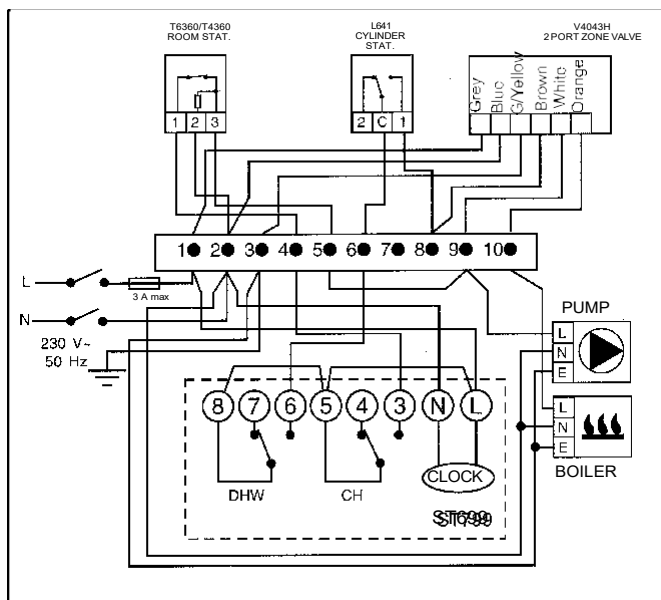
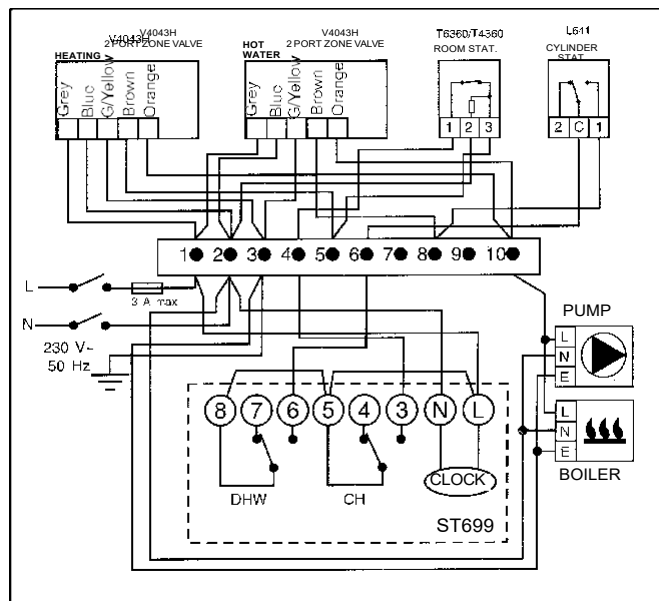
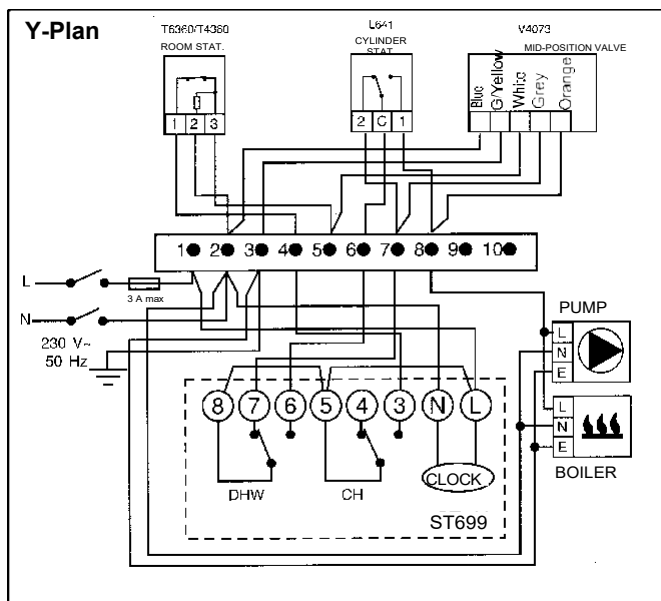
Basic System 1 - without thermostats



Basic System 3 - as System 2 except boiler cycling controlled by room thermostat when DHW is switched OFF



SUNDIAL PLAN WIRING DIAGRAMS



NOTE: In the Sundial S, W, and Y Plan wiring diagrams, connections are shown to basic boilers only. For wiring connections to pump overrun boilers refer to boiler manufacturers instructions or Honeywell Home for assistance.

Final Assembly

When the wiring is completed, replace the terminal cover ensuring it is correctly installed with ends located under the tabs and the locking pin through the locating hole.

Replace the timer onto the wallplate, ensuring it is firmly secured by the three securing clips.

Switch on the power and refer to the user's guide for programming details.

If the display remains blank, press the RESET button with a blunt object. (e.g. a pencil)

SETTING THE PROGRAMME TIMES

The unit has two **ON/OFF** programme times per day to control your Heating and Hot Water system. To help you set your personal programme quickly, a built-in programme has been incorporated with commonly used programme times. This programme is selected automatically when the unit is first connected to the mains power or when the **RESET** button is pressed.

Each programme time can be set between 3.00am and 2.50am (on the next day) to allow you to programme past midnight, if required.

- 1 Move the **TIME SET** selector to the first **ON** position (second from left). The first **ON** time will now be flashing in the display to indicate it can be changed.
- 2 Press the $\oplus$ or $\ominus$ buttons to set the first **ON** time.

Each press of the button will change the time by 10 minutes. Holding the button down for more than a few seconds will change the time quickly. The display will stop flashing to indicate the time has been set.

- 3 Move the **TIME SET** selector to the first **OFF** position. Set the first **OFF** time using the $\oplus$ or $\ominus$ buttons.
- 4 Move the **TIME SET** selector to the second **ON** position. Set the second **ON** time using the $\oplus$ and $\ominus$ buttons.
- 5 Move the **TIME SET** selector to the second **OFF** position. Set the second **OFF** time using the $\oplus$ and $\ominus$ buttons.
- 6 Move the **TIME SET** selector to the **AUTO** position to complete setting the programme times.

REVIEWING AND CHANGING PROGRAMME TIMES

- 1 To review/change the **ON/OFF** programme times move the **TIME SET** selector to each of the **ON/OFF** positions in turn. Any time can be adjusted by using the $\oplus$ or $\ominus$ buttons.

- 2 Move the **TIME SET** selector to the **AUTO** position to complete reviewing/changing the programme times.

SETTING THE CORRECT TIME

- 1 Move the **TIME SET** selector to the **SET CLOCK** position. The display will now be flashing to indicate it can be changed.
- 2 Press the $\oplus$ or $\ominus$ button to set the correct time of day.

Each press of the button will change the time by one minute. Holding the button

down for more than a few seconds will change the time quickly. The display will stop flashing to indicate the time has been set.

- 3 Move the **TIME SET** selector to the **AUTO** position to complete setting the time of day.

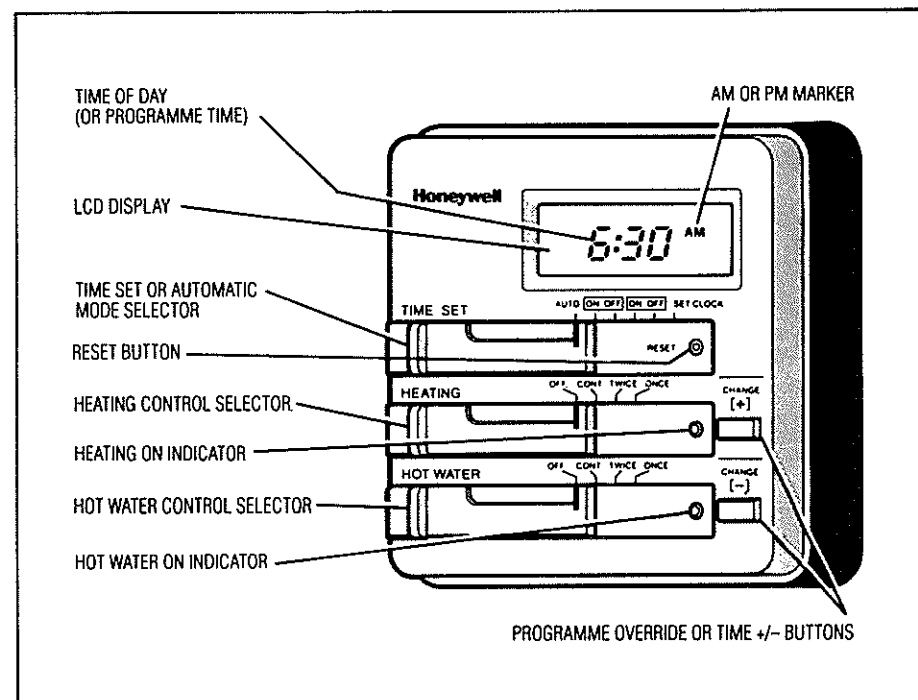
NOTES

- (i) On 12 hour clock versions ensure the **AM** or **PM** marker is correct. If not, adjust the time by a further 12 hours.

- (ii) Programme times cannot be set out of sequence. If the $\ominus$ button is being pressed, the time will stop changing when it equals a previous programme time. If the $\oplus$ button is being pressed,

subsequent programme times will be pushed forward along with the one being set.

- (iii) If the **TIME SET** selector is accidentally left in an **ON/OFF** or **SET CLOCK** position for a period of 10 minutes, the unit will start to operate as if it had been left in **AUTO**. The display will flash when this occurs to remind you to move the selector to the correct position.



IF THE DISPLAY REMAINS BLANK AFTER CONNECTING THE POWER OR IF YOU WANT TO RESET THE UNIT BACK TO THE ORIGINAL BUILT-IN PROGRAMME, PRESS THE RESET BUTTON WITH THE TIP OF A PEN OR PENCIL.

PROGRAMME TIME	BUILT-IN PROGRAMME	YOUR PERSONAL PROGRAMME
Time 1	6.30am	
Time 2	8.30am	
Time 3	4.30pm (16.30)	
Time 4	10.30pm (22.30)	

ST699 Programmer

OPERATING YOUR PROGRAMMER

For normal operation the **TIME SET** selector must be in the **AUTO** position.

Red indicator lamps show when the Heating or Hot Water is switched **ON**.

The two lower selectors are used to control your Heating and Hot Water as follows:

HEATING SELECTOR

OFF The heating will remain **OFF** permanently.

CONT The heating will remain **ON** permanently.

TWICE The heating will be switched **ON** and **OFF** automatically at the programme times.

ONCE The heating will be switched **ON** automatically after the first programme **ON** time and **OFF** at the last **OFF** time. The first **OFF** and second **ON** times will be ignored.

HOT WATER SELECTOR

The **HOT WATER** selector operates in the same manner as described above for the Heating.

CHANGE

The two **CHANGE** buttons switch the output **ON** or **OFF** (without altering the programme) when the **TIME SET** selector is in the **AUTO** position and the **HEATING** and/or **HOT WATER** selectors are set to **ONCE** or **TWICE**.

When the indicator lamp is **ON**, pressing the **CHANGE** button switches the output **OFF** until the next programme **ON** time.

When the indicator lamp is **OFF**, pressing the **CHANGE** button switches the output **ON** until the next programme **OFF** time.

POWER FAILURE

This unit has a built-in battery to ensure correct operation after a mains power cut. No action should be necessary following a power cut of up to 7 days. Longer power cuts may require you to reprogramme the unit.

DISPOSAL CAUTION

This product contains a lithium rechargeable battery. Please observe the following safety precautions on disposal:

- Do not dispose of in fire or water.
- Do not attempt to replace the battery.
- Do not tamper with the battery.

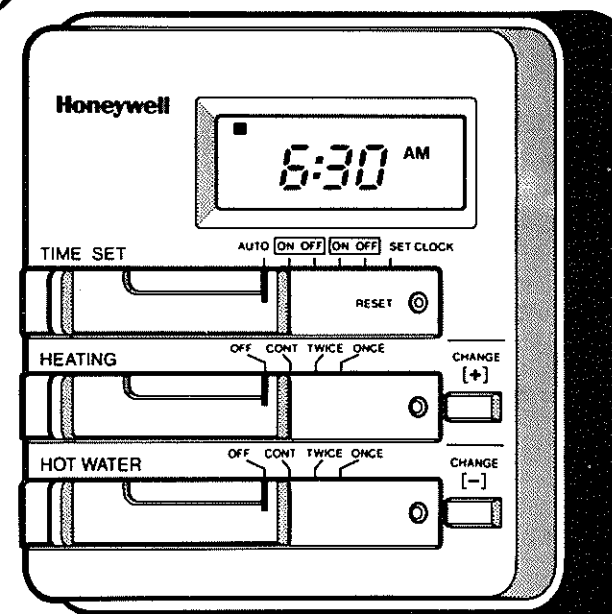
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Honeywell

Helping You Control Your World



42008495-001 R4

INTRODUCTION

The ST699 electronic programmer is used to control the **ON/OFF** timing of your heating and hot water system. The system may also incorporate a room temperature thermostat and a hot water cylinder thermostat to switch the heating appliance **ON** and **OFF** to maintain the correct temperatures.

ST699 INCORPORATES THE FOLLOWING FEATURES:

- 24-hour programme
- Independent Heating and Hot Water control
- Choice of two **ON/OFF** programme times per day (**TWICE**) or one programme time per day (**ONCE**)
- Built-in programme
- Temporary **ON/OFF** override (**CHANGE**)
- Continuous **ON** or **OFF** control (**CONT.** or **OFF**)
- **RESET** button