



DIGITAL TIMER 7-DAY / 2-CHANNEL

User & Installation Guide

TTH2C





This product must be correctly installed and configured to work properly. If you are not experienced in electrical wiring, we recommend professional installation to avoid possible personal injury or equipment damage.

DISCONNECT ELECTRIC POWER BEFORE INSTALLATION: Can cause electrical shock or equipment damage.

DISPOSAL AND RECYCLING: Waste electrical products should not be disposed of with household waste. Please recycle where these facilities exist. Check with your local authority or retailer for recycling advice.

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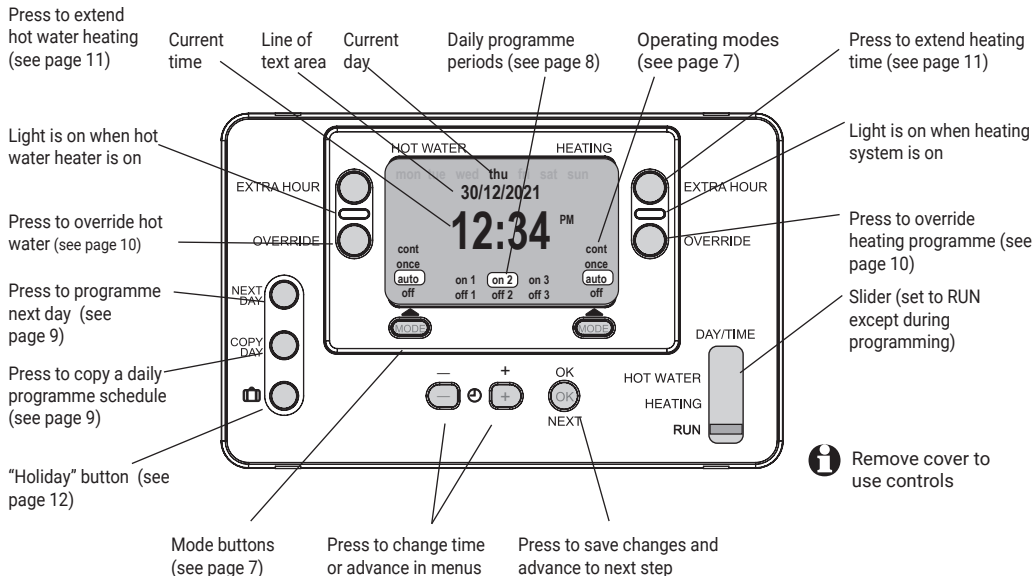
About your Digital Timer

The Digital Timer is designed to work with your existing thermostat, heating and hot water. It can work automatically, or you can adjust it manually to maintain a comfortable indoor environment while minimising energy use and costs associated with heating both your home and the hot water you require.

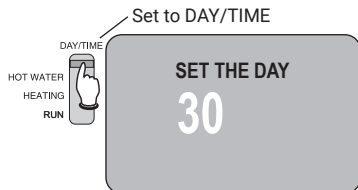
Features

- **Energy-saving design:** Automatically activates or shuts down your heating and hot water up to six times per day to fit your lifestyle while saving energy costs. Each day of the week can be programmed separately (see pages 8-12).
- **One-touch comfort control:** Allows you to override programmed settings at any time by turning your heating or hot water on or off – or by extending an “on” period by up to three hours.
- **Holiday button:** Turns off your heating and hot water for up to 99 days while you are away, then resumes normal operation when you return (see page 12).
- **Seasonal clock change:** Automatically adjusts the clock for seasonal changes in the spring and autumn to adjust for standard time or daylight savings time.
- **Lifetime memory:** Saves your customised settings indefinitely, even if the mains power supply fails.

Quick reference



Date/time settings



To change the date or time, set the slider to **DAY/TIME**.

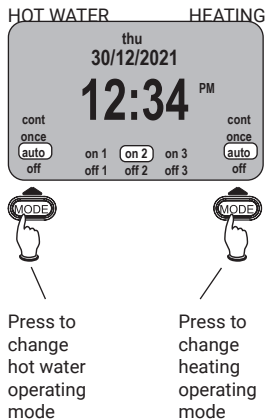
Use the **+** or **-** buttons to set the correct day, then press the **OK** button. Follow the same procedure to set month, year and time.

Date and time are set at the factory and should not need to be changed unless you turn off the automatic daylight savings feature (see pages 21-23).



TIP: While setting the time, press and hold the **+/-** buttons to change the clock time more rapidly.

Operating modes



Press the **MODE** button repeatedly to select an operating mode. You can set the Hot Water and Heating modes separately, by pressing the appropriate button as shown at left. Both work the same way:

Cont: Heating or Hot Water remains on continuously.

Auto: In this mode the Digital Timer follows a daily schedule for the Hot Water or Heating, turning each on and off at preset times during the day (see page 8).

Once: In this mode the Heating or Hot Water is turned on at the first programmed "On" time of the day, and remains on until the last programmed "Off" time (see page 8).

Off: Heating or Hot Water remains off at all times.

Cost-saving programme schedules

The Digital Timer is preset at the factory to turn off your home heating and hot water when they're less likely to be needed. The preset schedules are shown below. To change them, see pages 9-12. (See also two alternate schedules on page 25).

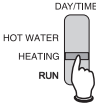
To run this schedule (as shown below, or as you've modified it), leave the **MODE** buttons set to Auto. You can make temporary adjustments at any time (without changing the schedule) by pressing the **EXTRA HOUR** or **OVERRIDE** buttons (see pages 10-11).





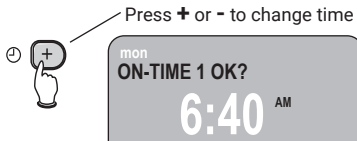
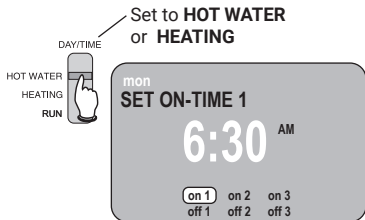
Default
on/off times
(Schedule A)

Monday-Friday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
Heating	6:30am	8:30am	12:00pm	1:00pm	4:30pm	10:30pm
Hot water	6:30am	8:30am	12:00pm	1:00pm	4:30pm	10:30pm
Saturday-Sunday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
Heating	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm
Hot water	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm



TIP: To review your schedule quickly, move the slider to Hot Water or Heating, then press the **OK** button repeatedly to see each on/off time period.

To adjust programme schedules



The Hot Water and Heating schedules must be programmed independently, but the procedure is the same for both.

- 1 Move slider to **HOT WATER** or **HEATING**, then press **+** or **-** to adjust the “On” time for Period 1 as shown at left.
- 2 Press **OK** to save, then press **+** or **-** to adjust the “Off” time for Period 1. Repeat for all time periods.
- 3 After all Monday time periods are set, press the **NEXT DAY** button to adjust settings for Tuesday. Repeat for all other days.

To stop programming at any time, move slider to **RUN**.

COPY DAY

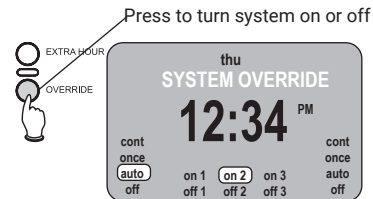


SHORTCUT: While programming, press the **COPY DAY** button to copy settings for the current day and apply them to other days. For example, you can apply Monday settings to other days of the week. After copying, press the **NEXT DAY** button to select a target day, then press **OK**.



TIP: To delete an unwanted time period, set identical times for the “On” and “Off” periods.

Temporary schedule overrides



The **OVERRIDE** buttons work like a simple “on/off” switch. If you press the button when the system is on, it will turn off. If off, it will turn on. The Hot Water and Heating override buttons work independently. Neither affects the other system.

These buttons work only when the **MODE** is set to Auto or Once (see page 7).

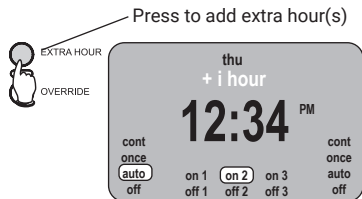
This change is temporary. It does not change the daily programme schedule, which will resume at the next programmed “On” or “Off” time period.

Green light shows system status (on or off)



NOTE: See also temporary overrides for extra hours or holidays (see pages 11-12).

Temporary schedule overrides — Extra Hour



Green light shows system status (on or off)



The **EXTRA HOUR** buttons can extend the current “On” period for 1 to 3 hours more. For example, if you expect guests you may want heating or hot water on for longer than usual. You can also use these buttons to switch on the system for a short period of time.

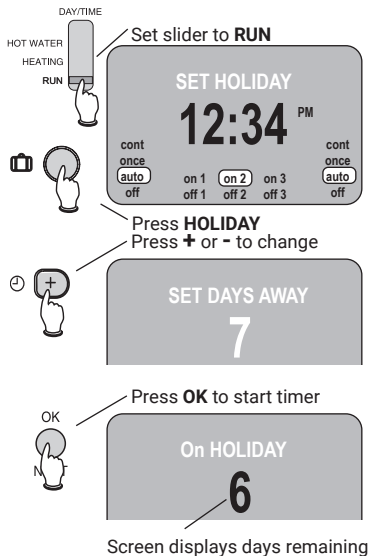
Press **EXTRA HOUR** once or more to extend times. These buttons work only when the **MODE** is set to Off, Auto or Once (see page 7).

This change is temporary. It does not change the daily programme schedule, which will resume after the number of hours you choose (1 to 3 hours).



NOTE: See also temporary overrides for holidays (see page 12).

Temporary schedule overrides — Holiday



The Holiday feature turns off your heating and hot water while you are away for an extended time (up to 99 days). After the designated time both systems resume normal operation.

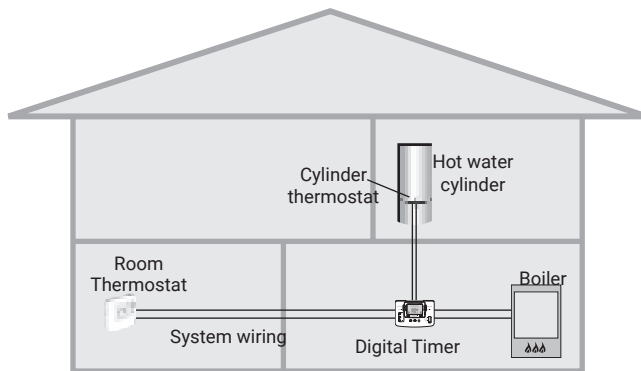
- 1 With slider set to **RUN**, press the **HOLIDAY** button.
- 2 Press **+** or **-** to select the number of days you will be away (up to 99 days), then press **OK** to save and exit. The display shows the date you will return and counts down the number of holiday days remaining.

To cancel the Holiday mode at any time, press **HOLIDAY** again.

Advanced features

- **Preset programme schedules:** The Digital Timer is preset to follow the schedules shown on page 10 (Schedule A) unless you change the settings. However, instead of changing the settings manually, you can choose either of 2 other pre-configured schedules. Schedule B keeps heating and hot water on longer if you're often at home. Schedule C keeps heating and hot water off longer to reduce energy costs.
- **Adjustable time settings:** By default, the Digital Timer has 6 time settings per day (3 on, 3 off). You can reduce this to 4 time settings if desired (see page 23).
- **Seasonal time change:** The clock automatically changes in spring and autumn to correspond with changes to and from daylight savings time (see page 22 to turn off this feature).
- **Adjustable clock format:** The screen can display time in either AM/PM format (i.e., 2 pm) or 24-hour format (14:00) (see page 22).
- **Adjustable backlight:** A bright continuous backlight makes the display screen easier to read. You can change its operation so the backlight always remains off or is lit for only a few seconds after each button press (see page 22).
- **Mini-Programmer option:** This special operating mode is designed to compensate for the inefficiency of some poorly controlled gravity hot water systems, which heat water whenever the home heating system is on. The Mini-Programmer option blocks some operating modes (i.e., "Auto" is not available in Heating, and "Off" is not available in Hot Water). (see page 23).

System installation



Heating/hot water systems

Installation procedure

- 1 Disconnect electrical power
- 2 Install Digital Timer
- 3 Connect system wiring
- 4 Restore electrical power
- 5 Configure system operation
- 6 Test system operation



NOTE: If you are not experienced in equipment installation and electrical wiring, we recommend that these procedures be done by a professional installer.

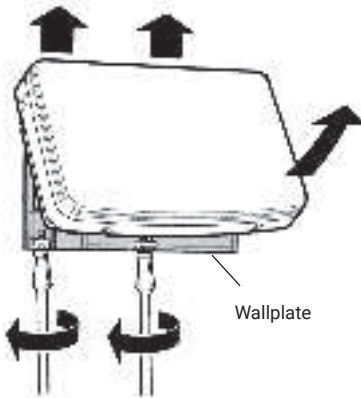


DISCONNECT ELECTRIC POWER BEFORE INSTALLATION: Can cause electrical shock or equipment damage.

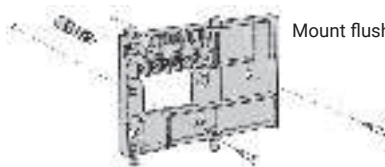
Remove wall bracket and select location

Use a screwdriver to loosen screws and separate the Digital Timer from the wall bracket as shown at left.

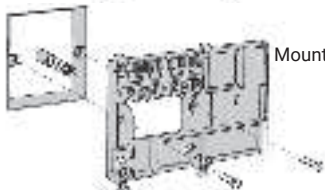
Select a mounting location about 1.2 to 1.5 metres from the floor where the display can be seen clearly, in an area where the ambient temperature is between 0 and 40° C. Install the wall bracket as shown on page 16.



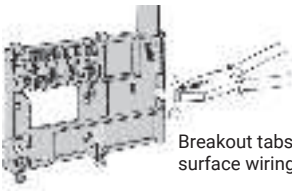
Mounting options



Mount flush on wall



Mount on existing junction box



Breakout tabs accommodate surface wiring if needed

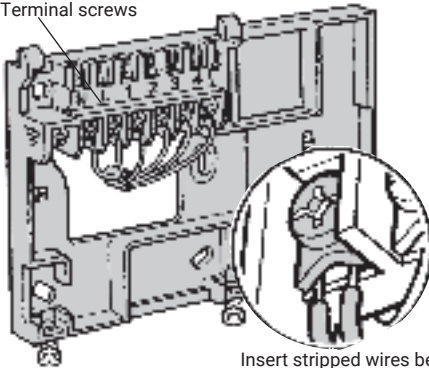
Use appropriate wood screws or anchor screws to mount the wall bracket flush against the wall. Use metal screws to mount on an existing junction box.

Pull wiring through the wall bracket and connect to screw terminals as shown on page 17.

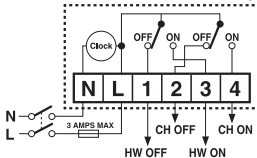
- 1 Make sure electrical power is off.**
- 2 Install wall bracket as shown at left.**
- 3 Connect system wiring as shown then replace Digital Timer on wall bracket and secure with screws.**

Connect system wiring

Terminal screws



Insert stripped wires beneath terminal clamps, then tighten screws



Terminal designations

Connect wiring from your heating and hot water system to the Digital Timer terminal screws as shown at left. See wiring diagrams on pages 18-20.

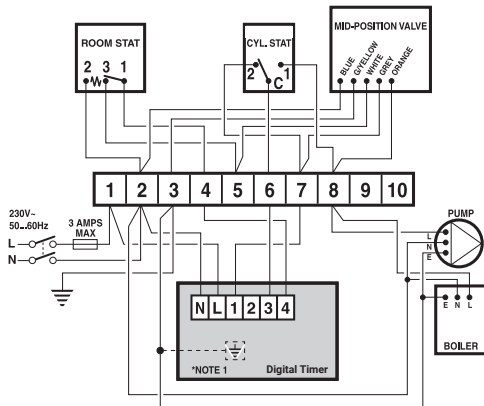
- 1 Make sure electrical power is off.
- 2 Strip insulation to expose about 7 mm of bare wire.
- 3 Use a screwdriver to loosen terminal screws, insert wires beneath terminal clamp, then tighten screws.
- 4 Replace Digital Timer on wall bracket, tighten securing screws, then restore electrical power.



NOTE: Keep AC mains supply/load cables separate from equipment wiring.

Wiring diagrams

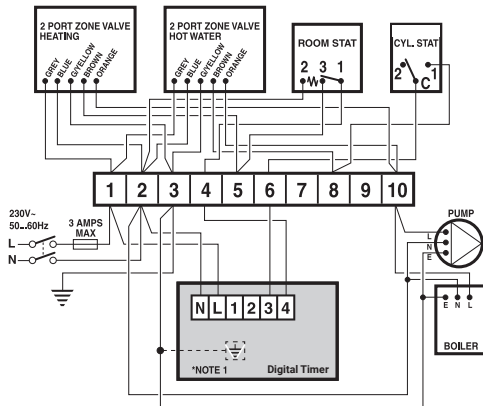
Y-Plan



Note 1: This is a Class II device (i.e., double insulated). A parking terminal is available for earth wiring if required.

Note 2: In "Y," "S" and "W" wiring plans, connections are shown only for basic boilers. For connections to pump over-run boilers, consult boiler manufacturer's instructions.

S-Plan

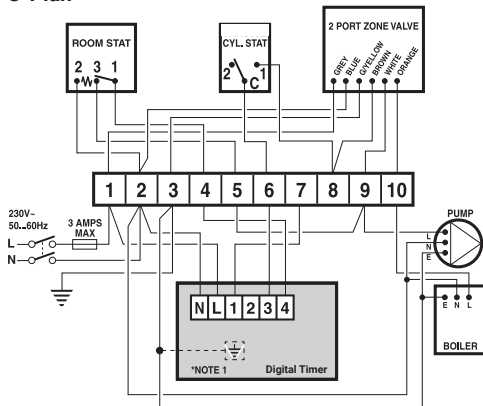


Note 3: Gravity circulation hot-water systems should be fitted with a suitable hot-water control valve as shown in Plan C on page 19. If this valve is not installed, configure this device as a Mini-Programmer (see page 24).

Note 4: For convenience, wiring is shown with connections made to a 10-way wiring strip in a junction box.

Wiring diagrams

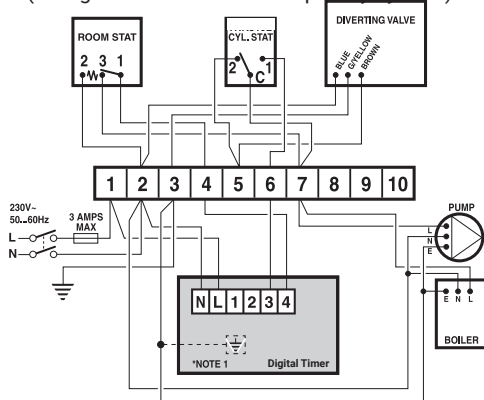
C-Plan



Note 1: This is a Class II device (i.e., double insulated). A parking terminal is available for earth wiring if required.

Note 2: In "Y," "S" and "W" wiring plans, connections are shown only for basic boilers. For connections to pump over-run boilers, consult boiler manufacturer's instructions.

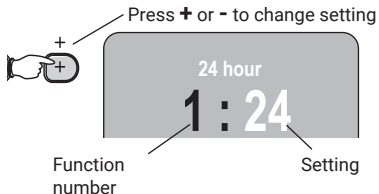
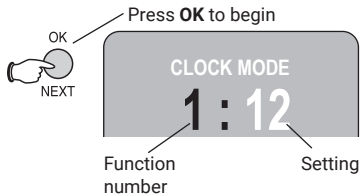
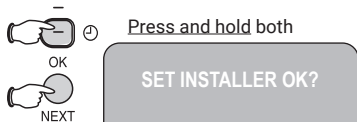
W-Plan (wiring shown as a hot-water priority system)



Note 3: Gravity circulation hot-water systems should be fitted with a suitable hot-water control valve as shown in Plan C above. If this valve is not installed, configure this device as a Mini-Programmer.

Note 4: For convenience, wiring is shown with connections made to a 10-way wiring strip in a junction box.

Installer setup



Installer settings allow you to customise how your system works. Check the table to see if any settings need to be changed.

To change installer settings:

- 1 Set slider to **RUN**.
- 2 Press and hold the **OK** and **-** buttons together until the screen displays "Set Installer OK?" Press **OK** to enter installer setup mode and continue.
- 3 Press **OK** repeatedly to scroll through functions until you find one you want to change.
- 4 Press the **+** or **-** buttons to change any setting, then press **OK** to save the new setting and advance to the next function.

To exit installer setup at any time, move the slider up, then back down to the **RUN** position.

Installer setup functions and settings

** Factory default setting

Function	Description	Setting Options
1	Clock format	12: AM/PM 12-hour time format ** 24: 24-hour time format
2	Screen backlight	0: Always off 1: Screen lit when button is pressed 2: Always on **
3	Summer/winter time change	0: No change 1: Seasonal switch to/from daylight savings time **
4	1 day or 5/2 day or 7 day operation	1: 1 day operation 5: 5/2 day operation 7: 7 day operation **

Always press OK after changing any setting.

Installer setup functions and settings

** Factory default setting

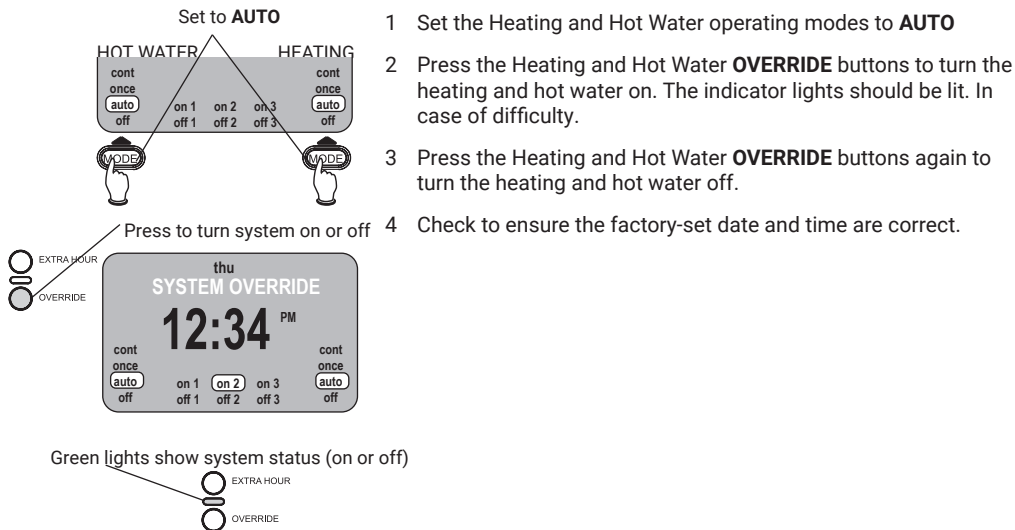
Function	Description	Setting Options
5	Daily time periods	2: 2 on, 2 off time periods per day 3: 3 on, 3 off time periods per day **
6	Preset time schedules	A: Standard (see page 8) ** B: More comfort (see page 25) C: More economy (see page 25)
7	"Mini-Programmer" on/off	0: Normal operation ** 1: Mini-Programmer operation
8	Reset all settings	0: Do not reset ** 1: Reset to factory default settings

Always press OK after changing any setting.

To test the system

After you have installed and configured the Digital Timer, you should check to make sure the system is operating correctly.

- 1 Set the Heating and Hot Water operating modes to **AUTO**
- 2 Press the Heating and Hot Water **OVERRIDE** buttons to turn the heating and hot water on. The indicator lights should be lit. In case of difficulty.
- 3 Press the Heating and Hot Water **OVERRIDE** buttons again to turn the heating and hot water off.
- 4 Check to ensure the factory-set date and time are correct.



The diagram illustrates the system override controls and the digital timer display. At the top, a control panel for 'HOT WATER' and 'HEATING' is shown. Each section has a 'cont once' button, an 'auto' button, and an 'off' button. Below these are three 'on' buttons (on 1, on 2, on 3) and three 'off' buttons (off 1, off 2, off 3). A hand is shown pressing the 'MODE' button, which is labeled 'Set to AUTO'. Below the control panel, a digital timer display is shown. The display shows 'thu' (Thursday) and 'SYSTEM OVERRIDE'. The time is '12:34 PM'. The display also has 'cont once' buttons, 'auto' buttons, and 'off' buttons. Below the display, a hand is shown pressing the 'OVERRIDE' button, which is labeled 'Press to turn system on or off'. To the left of the display, there are two indicator lights: 'EXTRA HOUR' and 'OVERRIDE'. A line points from the text 'Green lights show system status (on or off)' to these lights.

Alternate programme schedules

In addition to the default programme schedule shown on page 8, you can set the system to run either of the schedules shown below. Either schedule can be changed as described on pages 9 12.

Schedule B
(Comfort)

Monday-Friday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
Heating	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm
Hot water	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm
Saturday-Sunday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
Heating	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm
Hot water	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm

Schedule C
(Economy)

Monday-Friday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
Heating	6:30am	7:30am	12:00pm	12:00pm	5:00pm	10:00pm
Hot water	6:30am	7:30am	12:00pm	12:00pm	5:00pm	10:00pm
Saturday-Sunday	ON 1	[off 1]	ON 2	[off 2]	ON 3	[off 3]
Heating	8:30am	9:30am	12:00pm	1:00pm	5:30pm	10:30pm
Hot water	8:30am	9:30am	12:00pm	1:00pm	5:30pm	10:30pm

In case of difficulty

Digital Timer screen is blank	• Check the heating system to make sure the Digital Timer has electrical power.
Radiators are cold, or no hot water is available	• Check to ensure the heating and hot water channels on the Digital Timer are turned on. The indicator lights should be lit. • Make sure the room thermostat and cylinder thermostat are switched on and set to appropriate temperature levels. • Check the boiler to see if it is operational. • Check wiring (pages 17-20) and system configuration (pages 21- 23).
Screen displays "Not Valid" when slider is in Hot Water position	• Your Digital TimerWE has been configured as a "Mini-Programmer" during installer setup. This is only valid for an uncontrolled gravity hot water system. If you have a fully pumped system (see page 23), to reconfigure the system for normal operation by using Function 7, or contact the professional installer who configured your system.

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Technical Support
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