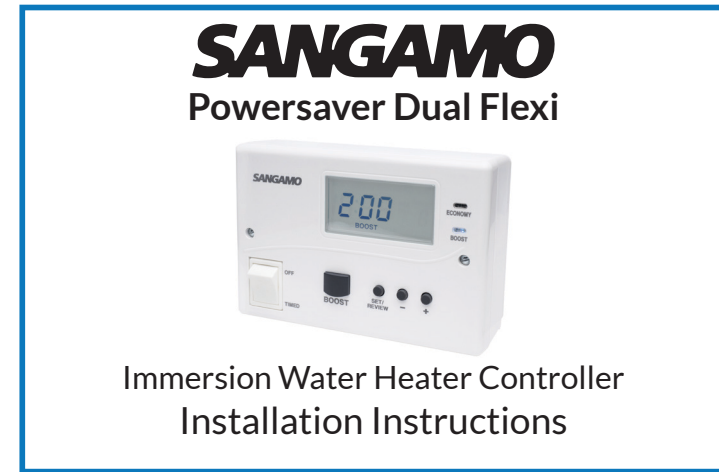


## SPECIFICATIONS

Rating	13A, 230V, 50Hz, suitable for immersion heaters up to 3kW
Live parts	Enclosed
Dirt protection	IP30
Shock protection	Class 1
Contacts	Micro Disconnection
Temperature	0 - 35°C
Battery reserve	Approx. 10 years, Non-rechargeable, Lithium
Clock accuracy	+/- 6mins per year @23°C
Dimensions	H:114mm W:169mm D:61mm
Program cycle	24 hour
Summer/Winter time change	Automatic
Off peak program	Installer selectable - 10 adjustable presets available covering low rate electricity tariffs; Economy 7, Economy 10 & Eco20:20
Boost facility	User selectable - ½, 1 or 2 hours
Boost program	User selectable - up to hours



## SAFETY NOTICE



**This 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 installation instructions before proceeding.

Provision must be made in the fixed wiring for a means of disconnection from the supply having a contact separation of at least 3mm on all poles. This can be provided by the consumer unit.

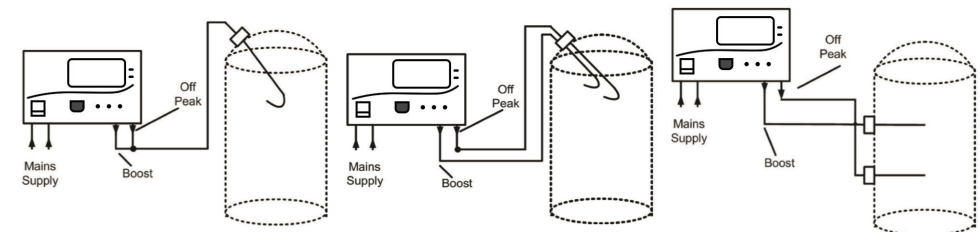
The Powersaver Dual Flexi is supplied with its own mounting box, which can be mounted over a single or double gang flush wall box.

This product is not suitable for mounting on unearthed metal or metalised surfaces.

### Single Immersion Heater

### Dual Immersion Heater

### Two Immersion Heater



### SERVICE AND WARRANTY

Guarantee: as shown on product identification label. Any tampering or misuse will invalidate this guarantee.

This product must meet Waste Electronic and Electrical Equipment Regulations (WEEE) for suitable environmental recycling, recovery and/or disposal. End of life products should be handled in line with local regulations. Alternatively return end of life product to Sangamo for correct disposal.

### CUSTOMER CARE POLICY

As part of Sangamo's continuous improvement program, the company operates a Customer Care policy. This means we welcome your comments and complaints, as it can help us to improve our services to you, our customer.

Due to our policy of continuous product improvement and development, the specifications in this guide may be subject to change without prior notice.



WEE/JH0069TY



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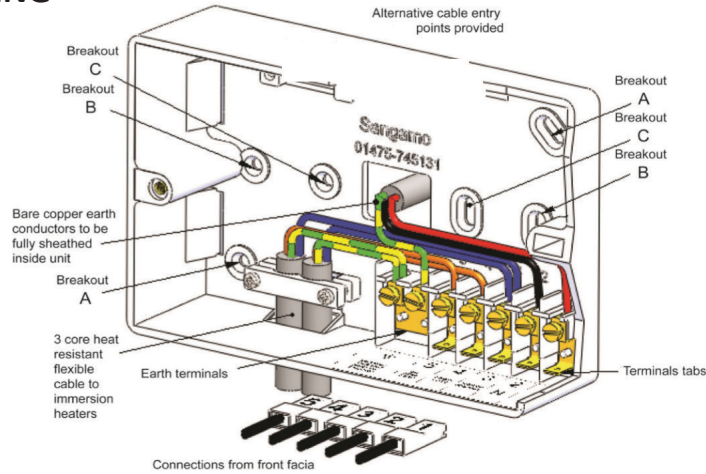
**Tel 01475 745131**

**Fax: 01475 600370**

**Email: enquiries@sangamo.co.uk**

**Web: www.sangamo.co.uk**

## MOUNTING



The Powersaver Dual Flexi should be removed from the mounting box by unscrewing the 2 captive pattress screws.

Conduit box mounting - Use either holes marked 'C' to secure to a single gang box or the two holes marked 'B' for a double gang box. Cable entry is through the rear breakout.

Surface mounting - Use the two holes marked 'A'. Cable entry is through the most appropriate cut out.

Remove the appropriate cable entry cut outs before fixing the box, where possible drill the box to provide a close fitting entry for cables, taking care to remove sharp edges.

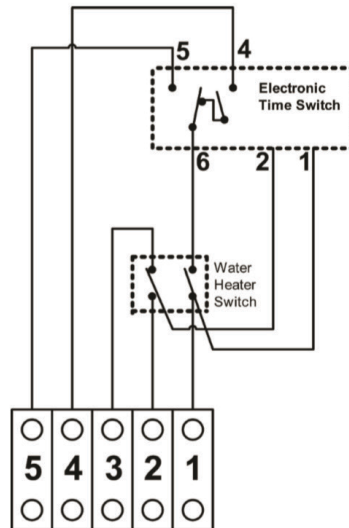
Ensure outgoing cables to the immersion heaters are securely clamped in the box. All surface wiring adjacent to the box should also be clamped appropriately or trunking used.

## WIRING

Use a three core heat resistant cable with a minimum conductor size of 1.5mm connection to a 3kW heater. Connect the incoming wires to the terminal block as follows:

1. Live In
2. Neutral In
3. Heater Neutral
4. Boost Load
5. Off Peak Load

Link terminals 4 & 5 if using a single immersion heater.



## COMMISSIONING

When the product leaves the factory the installer switch is set at program 0. The product settings may be reviewed/entered when not connected to a power supply. Pressing '-' or '+' buttons will activate the display and enable the review/settings to be made.

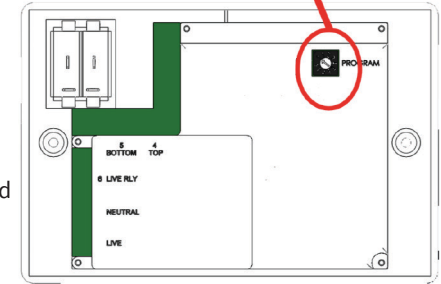
NB: to conserve battery power, the display will turn off after approx 30 sec. when off power.

See user instructions for operating details.

The user may need to check with their electricity supplier to confirm the off-peak electricity times used in that area & whether these times change between Winter (GMT) & Summer (GMT+1).

**It is the responsibility of the installer to ensure that the correct setting is applied for the appropriate electricity tariff.**

NB: A program can comprise of 1, 2 or 3 on/off programs depending on the tariff selected. Some program times remain the same and some change between Winter & Summer. For greater flexibility, program times are adjustable within the preset limits. The clock time will automatically adjust no matter which program is selected.



	Winter (GMT)						Summer (GMT+1)					
	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
<b>Economy 7</b>												
0	12:30am	6:30am					1:30am	7:30am				
1	11:30pm	7:30am					12:30am	8:30am				
2	10:00pm	8:30am					11:00pm	9:30am				
3	10:30pm	12:30am	2:30am	7:30am			11:30pm	1:30am	3:30am	8:30am		
<b>Eco 20:20</b>												
4	9:00pm	7:00am					10:00pm	8:00am				
<b>Economy 10</b>												
5	12:00am	7:00am	2:00pm	5:00pm	7:00pm	10:00pm	12:00am	7:00am	2:00pm	5:00pm	7:00pm	10:00pm
6	2:00am	7:00am	2:00pm	4:00pm	7:00pm	10:00pm	2:00am	7:00am	2:00pm	4:00pm	7:00pm	10:00pm
7	12:00am	5:00am	1:00pm	4:00pm	8:00pm	10:00pm	12:00am	5:00am	1:00pm	4:00pm	8:00pm	10:00pm
8	4:30am	7:30am	1:30pm	4:30pm	8:30pm	12:30am	4:30am	7:30am	1:30pm	4:30pm	8:30pm	12:30am
<b>This preset MUST be adjusted or the unit will remain permanently ON</b>												
9	12:00am	8:00am	8:00am	4:00pm	4:00pm	12:00am	12:00am	8:00am	8:00am	4:00pm	4:00pm	12:00am

To complete installation, take the front panel and push connectors numbered 1-5 into the corresponding terminal in the mounting base. Carefully present the front panel to the mounting box and secure with fixing screws. Ensure no wiring becomes trapped or damaged in the process.

Switch on the mains supply and put the rocker switch in the TIMED position.

## TYPICAL DISPLAYS - NORMAL



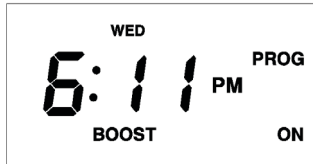
No program active



Off peak program active



Boost button pressed (remaining time left counts down)



Boost program active

## TYPICAL DISPLAYS - SET/REVIEW



Set/review time



Set/review year



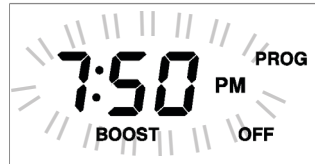
Set/review month



Set/review day



Set/review off peak programming (ON time shown as example)



Set/review boost programming (OFF time shown as example)

### SERVICE AND WARRANTY

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# SANGAMO

## Powersaver Dual Flexi



### Immersion Water Heater Controller User Instructions

## WHAT IS THE POWERSAVER DUAL FLEXI?

The Powersaver Dual Flexi is a water heater controller that combines ease of use with the efficient control of your water tank during off peak rate electricity periods to provide hot water when required.

This product differs from a simple time switch as it has programs built in that match with Economy 7, Economy 10 and Eco 20:20 electricity tariffs. This ensures your tank operates during off peak times avoiding expensive peak use.

As such this controller is **not** freely programmable, you can minimise the program times within your off peak period but not go outwith it,

**You may need to contact your electricity supplier to confirm which tariff you are on and your specific off peak times before the product can be installed.**

Should more hot water be required then pressing the 'BOOST' button will switch on the boost immersion element for ½, 1 or 2 hours to heat up part of the tank.

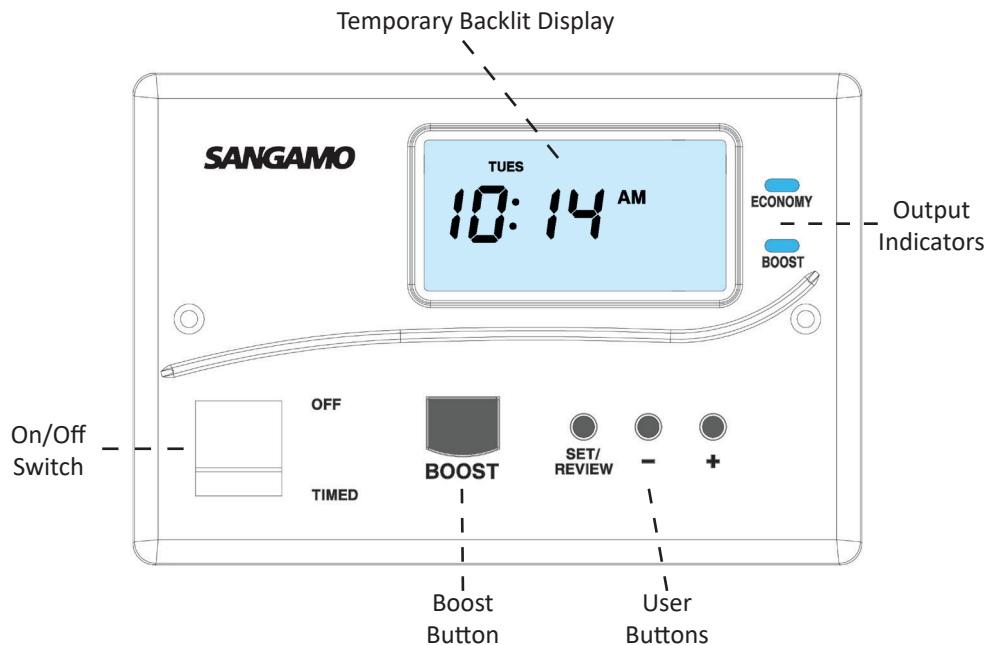
Where extra hot water will be required every day at the same time a Boost program of up to 2 hours can be entered. Again this will operate the boost immersion element to heat up part of the tank.

## ON/OFF SWITCH

In the OFF position the electrical supply to the water tank immersion heater is disconnected even though the display continues to operate. In the TIMED position all programs and functions are active.

## BACKLIT DISPLAY

The display is temporarily backlit for 15 seconds when mains power is supplied or if any button is pressed. This is useful where a product is installed in cupboards or dark environments.



## SET/REVIEW BUTTON

Using the set/review button you can cycle through and alter all the settings on the controller. Using the + or - buttons at each step until you are happy with the setting then continue with set/review until all steps are completed. If no button is pressed in 30 seconds at any point the display reverts back to the main screen. During a Boost Program the Set/Review button is inactive.

NB: Depending on which preset program you are on, you may skip 7-10 (2nd and 3rd off peak period) or 9-10 (third off peak program)

- Press 1x - Time flashes; time icon appears; adjust the **time** (AM/PM format)
- Press 2x - Year flashing; adjust to current **year**, day shown
- Press 3x - Month flashing; adjust to current **month**, day shown
- Press 4x - Day flashing; adjust to current **date**, day shown
- Press 5x - 1st off peak **on** time flashing
- Press 6x - 1st off peak **off** time flashing (presets with one off peak period skip to 11)
- Press 7x - 2nd off peak **on** time flashing
- Press 8x - 2nd off peak **off** time flashing (presets with two off peak periods skip to 11)
- Press 9x - 3rd off peak **on** time flashing
- Press 10x - 3rd off peak **off** time flashing
- Press 11x - Boost program **on** time flashing
- Press 12x - Boost program **off** time flashing
- Press 13x - Return to main display, day shown

## BOOST BUTTON

The boost button is used where, on a random basis, more hot water is required outwith any off peak or boost program times.

- Press once - 30 minute boost
- Press twice - 1 hour boost
- Press three times - 2 hour boost
- Press four times - Cancel boost

The display changes to show the time remaining in the boost period.

## OUTPUT INDICATORS

The blue LED indicators confirm the status of the Powersaver Dual Flexi's output for each immersion element.

## +/- BUTTONS

During normal operation the + & - button are not active and can be pressed to provide backlight on the display.

## BOOST PROGRAM

Boost program times are available to be set outwith any off peak program times to a maximum of 2 hours, if desired.

Press the boost button to cancel a programmed boost period.

NB: Off peak programs always take priority over boost programs

## RESET

To return to default settings press and hold **Set/Review**, + and - until all segments are shown on the display. Once released the product resets and then when;

- 0 is displayed - Press +
- 1 is displayed - Press -
- 2 is displayed - Press **Set/Review**
- 3 is displayed - Press **Boost**
- Time flashes - continue programming

## Preset Programs

	Winter (GMT)						Summer (GMT+1)					
	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
<b>Economy 7</b>												
0	12:30am	6:30am					1:30am	7:30am				
1	11:30pm	7:30am					12:30am	8:30am				
2	10:00pm	8:30am					11:00pm	9:30am				
3	10:30pm	12:30am	2:30am	7:30am			11:30pm	1:30am	3:30am	8:30am		
<b>Eco 20:20</b>												
4	9:00pm	7:00am					10:00pm	8:00am				
<b>Economy 10</b>												
5	12:00am	7:00am	2:00pm	5:00pm	7:00pm	10:00pm	12:00am	7:00am	2:00pm	5:00pm	7:00pm	10:00pm
6	2:00am	7:00am	2:00pm	4:00pm	7:00pm	10:00pm	2:00am	7:00am	2:00pm	4:00pm	7:00pm	10:00pm
7	12:00am	5:00am	1:00pm	4:00pm	8:00pm	10:00pm	12:00am	5:00am	1:00pm	4:00pm	8:00pm	10:00pm
8	4:30am	7:30am	1:30pm	4:30pm	8:30pm	12:30am	4:30am	7:30am	1:30pm	4:30pm	8:30pm	12:30am
<b>This preset MUST be adjusted or the unit will remain permanently ON</b>												
9	12:00am	8:00am	8:00am	4:00pm	4:00pm	12:00am	12:00am	8:00am	8:00am	4:00pm	4:00pm	12:00am

Use the box below to write which preset the installer has set your switch to and any details about what times have been reduced for future information:

<b>PRESET NUMBER:</b>	
-----------------------	--