



**GREEN HEAT**

*intelligent energy control*

# ***PV System***

## *User Manual*

*Models: 100L to 300L Hot water cylinders*

Connection to your phone application



## Connecting to Tuya or Smart Life APPs

### All Green Heat Units are Smart Units


**Step 1:** Using your mobile phone, scan the QR code below or via Google Play or Apple iStore search for the app called 'Tuya' or smart Life - install the app.



**Step 2:** Open the App and Create an account. Enter email address and then request a verification code and create your password.

**Step 3:** Activate Bluetooth on your phone.

**Step 4:** In settings on your phone ALLOW PERMISSIONS for the specific application

**Step 5:** On Green Heat display press the down button for 3-5 seconds the WIFI icon  will flash in top right corner.

**Step 6:** Add device Tap "+" on the top right corner of the APP.

**Step 7:** Confirm your phone is connected to your Wi-Fi network to which the device will be added, enter your Wi-Fi password, and confirm. Note 2.4Ghz Wi-Fi networks ONLY.

When connected the Wi-Fi icon in the top right of display turns to a solid state the unit is connected.

**System components**



**PV Panels**

Number and Size of PV panels depend on the size of the HWC and region (high or low irradiation) in which the PV Waterheating system will be installed.



**PTC Element**

1500W AC, 1100W DC or 2000W AC, 1100W DC. Screwboss or Flangemount available.



**GreenHeat TSE1 Display Unit**



**GreenHeat ECO MPPT**

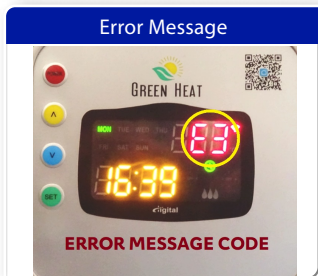
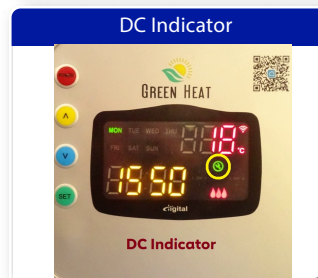
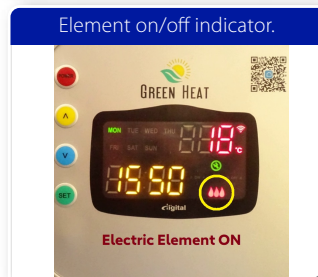
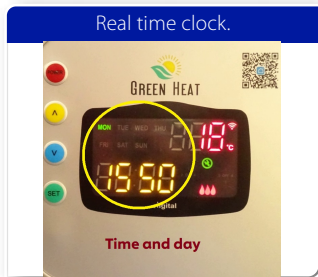
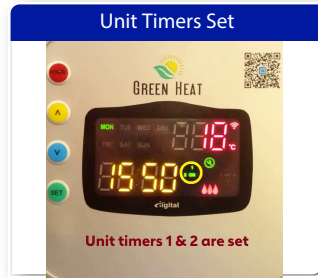


**DC Isolator for solar panels**

## DISPLAY

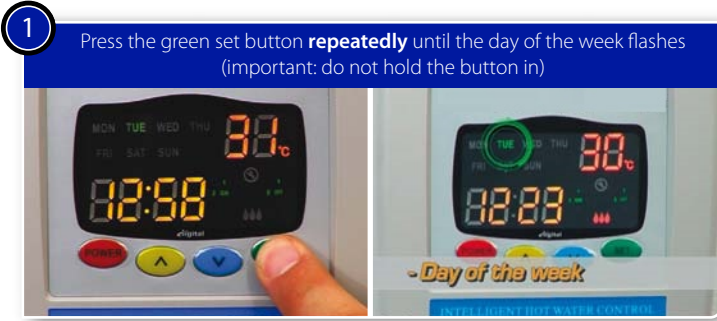
The display is the feedback mechanism to the user and displays important information about the solar system or electric HWC.

It displays the following:



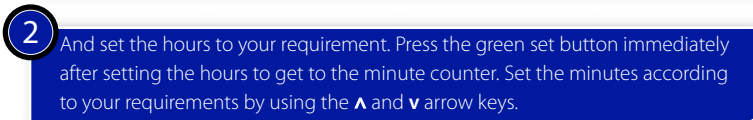
**Adjusting the day of the week**

To adjust the day of the week, follow the steps below:



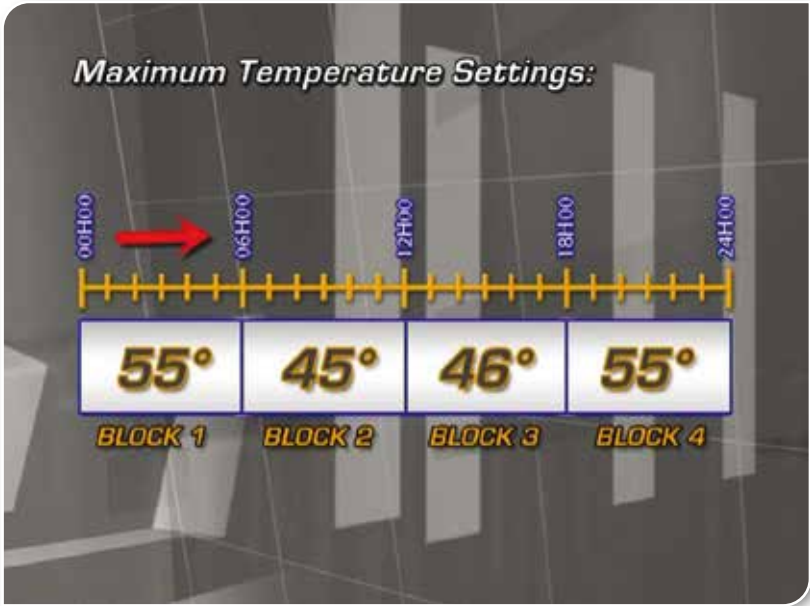
**Adjusting the real time clock**

To adjust the real time clock follow the steps below:



**Maximum temperature settings**

There are four maximum temperature settings. It is important to note that these settings apply to the four quarters of the day and not to the set times that the elements must come on.



**1** To adjust the maximum temperature settings, press the green button **repeatedly** until the first block temperature setting is displayed. The temperature will be flashing and the number of the block will be displayed in the timer indicator block. The below screens show the temperature flashing in block number 1.



**2** Set the temperature per block to user requirements by using **▲** and **▼** arrow keys.

**Setting DC temperature**

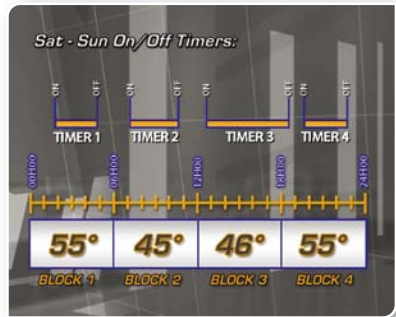
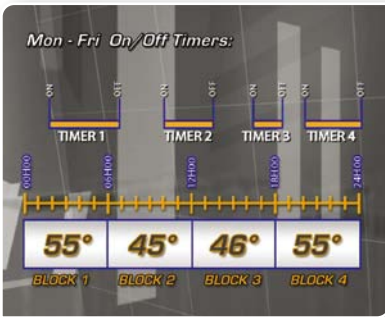
1

To adjust the DC maximum temperature setting, press the green set button five times. The DC temperature and word "on" will flash on the screen. Use the **▲** and **▼** buttons to adjust the temperature.



**Setting HWC element timers**

There are four on/off timers that can be set with the **GreenHeat**. Note that you can set different timers for the weekend.



To set timer number one, follow the steps as indicated below:

**1** Press the green button **repeatedly** until the timer indicators and Monday to Friday flashes. The below picture shows that you are at the Monday to Friday setting for timer number 1 on.

**2** Adjust the hours you require by using the **▲** and **▼** buttons. Immediately press the green set button again to get to the minutes and use the **▲** and **▼** buttons to adjust the minutes.

**3** To set the number 1 off timer, press the green button **repeatedly** until the timer indicators and Monday to Friday flashes. The below picture shows that you are at the Monday to Friday setting for timer number 1 off.

To get to the weekend timer setting press the green set button until the timer indicators and Saturday and Sunday flashes.

**4** Adjust the hours you require by using the **▲** and **▼** buttons. Immediately press the green set button again to get to the minutes and use the **▲** and **▼** buttons to adjust the minutes.

Follow the same steps as above for timer 2, 3 and 4.

### Eliminating a timer

It is possible to eliminate a timer setting. To eliminate a setting follow the below steps:

Follow the steps above with on and off setting.

- Press the down arrow button until the timer setting reaches 00:00.
- Press the down arrow once more to eliminate until ---:-- is displayed.



**Element indicator**

The element indicator shows the user when the element is switched on.

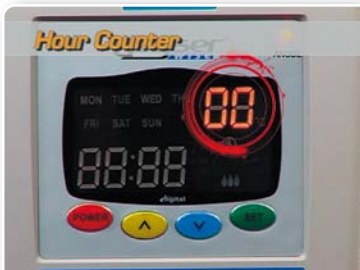
When the element indicator is on, it means that the element is switched on.

When the element indicator is flashing, it means the water has reached the maximum temperature setting and the water will be allowed to cool down 6°C at which time the element switches back again.



**Hour counter**

The number of hours that the element was on can be counted. If the user pushes the up and down arrows simultaneously and keep them in for 6 seconds, the number of hours will be displayed.



For example: Let's say the hour indicator indicates 30 hours. You then multiply the number of hours with your HWC element rating, e.g. 4 kW. This then means that the user consumed 120 kWh since the last time the unit was reset.



To reset the hour counter, keep the up and down arrow buttons in simultaneously until the main time settings reappear.

## ERROR CODES - SUMMARY

The error codes indicate various problems and warnings. Therefore these require actions from the installer.

### Error code: E2 - Dry burn protection

*Possible cause:*

Empty cylinder  
Thermal pocket too close to element

*Action(s):*

Check all water connections to the HWC

### Error code: E3 - Sensor failure water HWC

*Possible cause:*

The sensor could be damaged or there is a connection problem.

*Action(s):*

Replace sensor  
Check electrical connections and/or plug in control unit

### Error cod: E4 - Heating loss

*Possible causes:*

- Leaking hot water pipe
- Faulty valve
- Scale build up
- No power supply to the element
- **Heating time set at same time of main water usage - need to adjust timer to heat before usage start.**
- Faulty heating element

*Action(s):*

Check all of the above

### Error code: E5 - Over temperature protection

*Possible cause:*

HWC temperature exceeds 85°C

*Action(s):*

Open hot water tap to reduce temperature in geyser

### Error code: E7 - Communications failure

*Possible cause:*

Poor contact or damaged cable

*Action(s):*

Check communications wire between control box and display unit

### Warranty conditions:

The products carry the following warranty. On the discretion of the supplier, the warranty may be extended beyond the set time.

This warranty is a carry-in warranty and the product need to be shipped to the supplier at the cost of the buyer/client. The repair, parts, labour and return shipping will be carried by the supplier.

#### GREEN HEAT CONTOLLER

- 50 000 Cycles
- 2 Year Guarantee

#### ECO MPPT UNIT

- 15 Year design life
- 2 Year Guarantee

#### GREEN HEAT ELEMENT

- 15 Year design life for cartridge with heating element
- 10 Year warranty on stainless steel casing
- 3 Years Cartridge warranty

#### Photovoltaic Panels

- 25 Year product Guarantee. This includes structural integrity.
- 30 Years - 87% performance guarantee
- The guarantee of the panels is carried by the panel supplier in NZ under their terms and conditions.





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