

DESCRIPTION:

This controller heats a swimming pool by the use a valve to divert pool water to the solar collectors and/or up to two auxiliary heaters (if fitted).

The auxiliary heater (gas or heat pump) has a temperature limit setting (aux limit), the pool will be heated to this limit by the auxiliary heater, control is via the RELAY1 output of the controller, which is connected as a daisy chain to the flow or pressure switch in the heater. When a high level of solar gain is available the heaters will be switched off to save energy.

The auxiliary heater operating time is controlled by heat demand settings, which can be set to on/off and set to run between start and end times, note that if the start & end time are set to the same values the auxiliary heater(s) will run for 24 hours to achieve temperature limit(s).

There is also a provision for a second heater with a separate limit setting (aux2 limit), this heater is controlled by the 240VAC power socket marked as AUXILIARY. If the combined current for the 2 sockets is greater than 10 Amps an optional switchbox can be driven by the AUXILIARY power outlet. The aux2 heater is set to run to the same heat demand times as the aux1 heater, the temperature on this heater should be set lower or the same, if set lower it will function as fallback heat source for the occasions that the aux1 heater or solar cannot maintain temperatures.

The *Enter* button.

FOR MANUAL MODE
PRESS ENTER NOW

Pressing the *Enter* button once will display the above message for ~3 seconds, simply wait and the unit will return to normal operation.

If you *Enter* is pressed for a second time within a 3 second period, the display will indicate you have entered Manual mode and the pump will start, operation is the same as manual mode as described in the settings menu (see below) with the only difference being the timeout value is 4 Hours.

SETTINGS MENU

To enter the SETTINGS MENU push either the up or down buttons and the following will be displayed;

```
SETTINGS MENU  
1) MANUAL MODE
```

Use the *Up/Down* buttons to scroll to the option you wish to change. Press the *Enter* button to select the currently displayed menu item.

All menu items are shown below;

```
SETTINGS MENU  
1) MANUAL MODE  
2) TEMPERATURE  
3) HEAT DEMAND  
4) MODE  
5) CLOCK  
6) SAVE & EXIT
```

1) MANUAL MODE

```
MANUAL PUMP MODE  
UP=ON DOWN=OFF
```

MANUAL MODE allows you to manually set the pump to 'on' by pressing the *Up* button or 'off' by pressing the *Down* button.

Pressing *Enter* will return you to the SETTINGS MENU. You can also keep pressing *Enter* to toggle the pump from 'on' to 'off' and vice versa.

MANUAL MODE will time out, after 24 hours the controller will return to normal operation.

2) TEMPERATURE

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TEMPERATURE
SOLR LIMIT  XX.X°

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When you enter the TEMPERATURE menu you may change the solar heater temperature limit setting (SOLR LIMIT) by pressing the *Up/Down* buttons, if no change is required simply push *Enter*. Factory default is for SOLR LIMIT is 29°C.

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TEMPERATURE
AUX LIMIT   XX.X°

```

AUX LIMIT sets the temperature the auxiliary heater will heat the swimming pool to you can use *Up/Down* to change the selected temperature, press *Enter* to accept. (default is 28°C) The AUX heater control will help maintain pool temperature while solar gain is unavailable.

```

TEMPERATURE
AUX2 LIMIT  XX.X°

```

AUX2 LIMIT sets the temperature the aux2 heater will heat the swimming pool to you can use *Up/Down* to change the selected temperature, press *Enter* to accept. (default is 27°C) The AUX2 heater control will boost pool temperature in cold weather or if the pool has not been heated for a considerable amount of time.

NOTE 1: AUX LIMIT settings will only be shown if heat demand is turned on.

NOTE 2: For maximum efficiency it is advisable that the solar limit (SOLR LIMIT) be set higher than the auxiliary limit (AUX LIMIT) and AUX LIMIT to be set higher than AUX2 LIMIT. Negating this advice will result in the controller to behave abnormally.

3) HEAT DEMAND (only set to ON if auxiliary heater(s) are fitted)

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HEAT DEMAND
ON/OFF

```

When you enter the HEAT DEMAND you will need to select ON or OFF, the selected option will be flashing, you can use *Up/Down* to change the selected option, *Enter* to accept.

If OFF is selected you will return to the menu, If ON is selected you will be prompted for START and END time, modify values by using the *Up/Down* buttons, use *Enter* to accept the values. Factory default is 'heat demand off'

```

HEAT DEMAND TIME      HEAT DEMAND TIME
START TIME  X:XX      END TIME    X:XX

```

NOTE: if a 24 hour continuous run time is required then set the start time and end time to the same value. (e.g. Start 12:00, End 12:00)

```

IF LIMIT ACTIVE
SAMPLE AT XXXX

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Sets the sampling period once the pool has reached the auxiliary temperature limit, options are LIVE, 15 min, 30 min, 1 hour, 2 hours. Once the pool reaches the aux temperature limit and the filter pump is turned off it will not be turned on until the sample period expires, the filter pump will then run for a minimum period of 3 mins so that water can flow past the pool temperature sensor and obtain an accurate reading. Should heating be required the filter pump will remain on to heat the pool. If the pool temperature sensor is in a pipe with continuous flow use the LIVE setting as pipe temperature will be the same as water temperature.

Factory default for HEAT DEMAND is OFF (06:00 to 22:00, no sample)

4) MODE

```
MODE
SUMMER MODE/WINTER MODE/TROPICAL MODE
```

You can use the *Up/Down* buttons to change the selected option, Press the *Enter* button to accept. SUMMER MODE is the normal operation of heating the swimming pool.

TROPICAL MODE is selected if you wish to cool the swimming pool, the solar pump will run if the roof temperature is colder than the pool until SOL LIMIT is obtained; note that this is most likely to occur at night.

WINTER MODE, when selected you will be prompted to select the start month and end month of winter (inclusive), this assists in the systems off-season maintenance and save energy as solar gain may be available but swimming temperature cannot be achieved. If heat demand is set to OFF a 3 minute flush of the solar matting occurs between 10:00 and 16:00 providing the roof temperature is equal or greater than the pool, but if that condition does not occur a solar system flush will be forced to occur at 16:00.

If heat demand is ON the system operates similar to normal mode but solar pump activity is monitored and will force a 3 minute flush if solar has not been active for seven days, note the unit may flush if winter mode is selected on the day of install.

5) CLOCK

```
TIME 08:45 AM
WED 29/02/2012
```

This menu allows you to adjust the calendar date and time of day.

Time is in 24h00 format, there is an AM/PM indication to help avoid setting the clock wrong.

The flashing value is the adjustable value, use the *Up/Down* buttons to adjust the value then press the *Enter* to accept the displayed value and move to the next setting until all values are set.

6) SAVE & EXIT

When this menu is selected, push *Enter* to save ALL settings, the unit will return to normal operation automatically.

Note: If any of the menu items are left unattended for 3-4 mins the menu will time out and automatically save all settings and return to operation.

NOTES.

1. If a sensor fault is detected the controller will display which sensor and what the fault is.
2. Should power be interrupted for any reason, the controller will resume normal operation when power is restored, all information will have been kept.
3. Temperature sensors used with this unit are Digital and are accurate to 0.5 Deg. C, no calibration is required or possible.
4. The sensor cable with the thin trace is the positive and is usually fitted to the right hand side of the green plug; incorrect polarity will be displayed as a fault.
5. If Auxiliary heater interlock switching is used the maximum load is 5A at 32VAC max.
6. Maximum combined current for both 240VAC sockets is 10 Amps.
7. Solar start and end times may be changed by holding the up button while power is applied.

WARRANTY

This product is covered by a limited 3 year warranty against component failure or faulty workmanship from the date of installation.

A faulty unit should be returned in the first instance to the dealer from which the unit was purchased.

Damage to the unit due to misuse, power surges, lightning strikes or installation that is not in accordance with the manufacturer's instruction may void the warranty.

Warranty does not cover travel costs to or from installation site. Unit must be returned to manufacturer for repairs.

If the power cord is damaged, do not use the controller; return the unit to the supplier for repair.

Customer Record. (To be retained by the customer);

Dealer/Installer Name _____

Serial Number _____

Date Installed _____

For service assistance phone SUNLOVER HEATING

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