



# Model SL9UD Solar Controller

[www.sunloverheating.com.au](http://www.sunloverheating.com.au)

## Sunlover Heating

62 Parkhurst Drive, Knoxfield, VIC 3180

Tel: +61 1800 815 913

Email: [sales@sunloverheating.com.au](mailto:sales@sunloverheating.com.au)

## SL9UD (UP DOWN) INSTRUCTIONS

The SL9UD unit is designed to give you year round automatic control of swimming pool systems employing a pump and a simple one pipe up, one pipe down solar collector.

The unit contains a supercap backed-up real-time clock; thus time and critical operation data is correct after a short power failure.

The unit will periodically turn the pump on and after allowing the system to prime, determine if the water coming down from the solar collector can heat the pool. There is a blackout period from a variable stop time between 2:00pm and 7:00pm to a fixed start time of 8:00am when no automatic pump operation can occur.

By following these simple installation and operating instructions you will enjoy trouble free operation for many years.

### CAUTION

- **DO NOT OPEN THE CASE OF YOUR SL9 UNIT - IT IS NOT USER SERVICEABLE. OPENING THE CASE WILL VOID YOUR WARRANTY.**
- **IF THE POWER CORD IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER OR AN AUTHORISED AGENT.**
- **ENSURE THAT THE SL9 UNIT AND SURROUNDING AREA ARE FREE FROM VERMIN INFESTATION.**

### INSTALLATION

The SL9UD unit is weather resistant; however it should be mounted in a sheltered position where it is not exposed to direct weather, splashing or spray from the pool or filtration equipment.

**Electrical building regulations specify that the SL9UD unit must NOT be mounted within 3.5 metres of the pool.**

Fix the unit to a wall or post, within 1.5 metres of a 240 volt outlet and within 2 metres of the solar pump. Mounting points are provided on the back. Two sets of temperature sensor cables are supplied; one cable with black/white wiring for the pipe up to the solar collector, and one cable with grey/blue wiring for the pipe down from the solar collector. This solar control unit must be installed in the upright position - cables and mains sockets downwards. The hole size required for the pool sensor grommet is 12.5mm (1/2 inch) in diameter

- **Avoid cutting the sensor leads (excess can be neatly coiled).**
- **If the cable is cut, it must be reconnected with the POSITIVE (stripe) to the POSITIVE, and the NEGATIVE (no stripe) to the NEGATIVE.**
- **Do not place any wire joins underground.**

## POWER CONNECTION

Power is supplied through a standard 240 volt lead. A piggyback socket is provided on the lead if you need to run the filter pump or its timer and the SL9UD unit from the one power outlet. Power for the units pump comes from the left hand side socket on the bottom of the unit.

**Maximum pump rating - 1.5HP**

**ONLY THE PUMP IS TO BE CONNECTED TO THE CONTROLLER OUTLET. MORE THAN THIS, OR EQUIPMENT OTHER THAN A PUMP MAY DAMAGE THE ELECTRONICS OR THE ITEM CONNECTED TO THE CONTROLLER OUTLET AND WILL VOID YOUR WARRANTY.**

## OPERATION

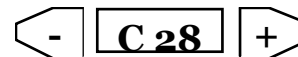
After initial power on (or after an excessive power failure is restored), the clock in the unit will be wrong. The units "clock error" LED will be flashing. Correct the time by use of the "-" and "+" buttons. The "-" button will change the hours and the "+" button will change the minutes. After the time is corrected the "clock error" LED will stop flashing. Time can be corrected later by first pressing the "WINTER" and "DISPLAY" buttons together; display shows "Set" then displays the hour (i.e. H.08), then use the "-" and "+" switches as above.

### ***AUTOMATIC (SUMMER) MODE***

For full automatic operation, simply plug it in and switch on. When the SL9UD unit senses the suns heat it compares it to the pools temperature and your preset "comfort" temperature and decides when to heat the pool. Whenever the unit is powered up, there will be a delay of 2 minutes before the solar pump is activated. The unit will then run for at least 6 minutes to reset the pool temperature sensor (during these times the decimal point after L or P will be flashing). When the pool has reached your preset "comfort" temperature, it turns everything off and waits 4 hours before starting the process again. If the pool cannot be heated, it waits one hour before trying again.

### ***COMFORT TEMPERATURE ADJUSTMENT***

Adjustment of the comfort level is achieved by pressing either the "+" or "-" buttons. The first operation will simply display the present comfort temperature (i.e. C25). Any further operation of the buttons will increase or decrease the setting. The setting will automatically change if either button is pressed and held down. This temperature will be stored permanently in memory, even with power off.



### ***DIFFERENTIAL TEMPERATURE ADJUSTMENT***

Adjustment of the differential temperature is achieved by pressing the "-" and "WINTER" buttons together (displays "diF") then pressing either the "+" or "-" buttons. The current temperature is displayed then it can be adjusted. The larger the differential, the hotter the water in the downpipe needs to be *above* the pool temperature to be allowed to heat the pool. This temperature will be stored permanently in memory, even with power off.

### ***FINISH TIME ADJUSTMENT***

Adjustment of the Finish time (last time of day that unit can operate) is achieved by pressing the "-" and "DISPLAY" buttons together (displays "Fin") then pressing either the "+" or "-" buttons. The finish is displayed time (in 24 hour format), then it can be adjusted. This time will be stored permanently in memory, even with power off.

### ***DISPLAY MODE***

To read up and down pipe temperatures, the clock hour and minute times and the comfort temperature settings, press the "DISPLAY" button. The display will cycle through the settings showing a "U" for up pipe, a "d" for down pipe, "H" and "M" for the time settings and "C" for comfort.

### ***DISPLAY MEANING***

<b>P28</b> Up Pipe (Pool) temp when pump is on. Pool is 28°C.	<b>L28</b> Last pool temp when pump is off. Up Pipe (Pool) was 28°C when pump was turned off.	<b>C30</b> Shows comfort setting 30°C.	<b>U19</b> Shows up pipe temp 19°C.
<b>EuP</b> <i>Flashing.</i> Faulty up pipe sensor or temp outside 3°C-50°C.	<b>Edn</b> <i>Flashing.</i> Faulty down pipe, sensor or temp outside 3°C-98°C.	<b>Nop</b> Between finish time & 8am. No pump operation is allowed.	<b>d22</b> Shows down pipe temp 22°C.

**NOTE:** When pump is off, controller shows the L temperature as the up pipe sensor is no longer reading a valid temperature.

### ***WINTER MODE***

The SL9UD unit is equipped with a unique "Winter mode" facility which allows the user to operate the solar system daily throughout the colder months. By using this facility you will extend the life of your solar heating by preventing pump seizure and drying of chemical build-up in the collector.

**To select Winter mode**, press the "WINTER" button. The display will show "W" and the unit will turn on the pump for six minutes each day. This sequence repeats every 24 hours. To resume normal operation, press the "WINTER" button again and the unit will begin Automatic (Summer) operation.

### ***OVERRIDE MODES***

**Before selecting these modes, remember that the SL9UD unit is designed to work automatically. Overriding the automatic operation can result in overheating or even cooling if the solar system continues to run when the sun is not shining.**

**To select "pump override on"**, press the "+" and "-" buttons together. The display will alternate between "On1" and the current pool temperature. The "Override" LED will be flashing, and the pump will operate for 1 hour before resuming automatic mode. To select a 4 hour override duration, press and hold the "+" and "-" buttons together for five seconds. The display will show "On4". To cancel override operation, press the "+" and "-" buttons together again.

**To select "pump override off"**, press the "+" and "DISPLAY" buttons together. The display will alternate between "OFF" and the current pool temperature. The "Override" LED will be flashing, and the pump will turn off and stay off for 1 hour before resuming automatic mode or until these buttons are operated again.

**To select "Unit off"**, press the "+" and "DISPLAY" buttons together and hold for five seconds until the display shows "OFF". The unit is effectively off, although the "DISPLAY" feature can still be used to check time and temperatures. To resume normal operations, press the "+" and "DISPLAY" buttons together.

### **ERROR INDICATION**

**NOTE:** In cases of extremes in temperature, the fault displays may show although the unit is not faulty. Remember the pool temperature is sensed from the up pipe which can be much colder or hotter than the pool if the system has been off for some time. The water from the roof in the down pipe can be very hot for a few minutes after the pump is started.

Up pipe and down pipe temperature sensor errors may show in override modes, but will not stop operation. If the unit displays "EEE", then it has a memory fault, and may not operate correctly. The unit requires servicing.

# SUNLOVER HEATING

## WARRANTY - SL9UD

- This range of product is covered by a limited 2 year warranty against component failure or faulty workmanship from the date of installation.
- Temperature sensors are covered by a limited 12 month warranty.
- 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.
- Valves and actuators are covered by a twelve month warranty at the discretion of their manufacturer.
- Warranty does not cover travel costs to or from installation site.
- Return to supplier for repair.

### **CUSTOMER RECORD**

*(to be retained by the customer)*

Date Installed: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

Dealer/Installer Name: \_\_\_\_\_

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

\_\_\_\_\_

### **For service assistance phone SUNLOVER HEATING**

#### **HEAD OFFICE - VIC**

62 Parkhurst Drive  
Knoxfield 3180  
Victoria  
Australia  
**03 9887 2131**

#### **NSW OFFICE**

Factory 2  
20-22 Foundry Road  
Seven Hills 2147  
New South Wales  
Australia  
**02 9838 0000**

#### **QLD OFFICE**

Unit 1  
8 Reichert Drive  
Molendinar 4214  
Queensland  
Australia  
**07 5679 6821**

[www.sunloverheating.com.au](http://www.sunloverheating.com.au)