

# Aquasun 2

## Instruction Manual



## DESCRIPTION

The Aquasun 2 is an entry level automatic solar controller with temperature adjustment, manual mode and winter mode features. Mode of operation and the temperature limit setting are retained after a power outage.

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## INSTALLATION INSTRUCTIONS

### CONTROLLER INSTALLATION

Find a suitable location to mount the control box. The controller should be installed out of direct weather and no closer than 3 meters from the water's edge. Lift up the two mounting tabs and use two appropriate screws to mount the control box to the wall, keeping in mind that the power cable is 1.8m long and should be plugged directly into a general power outlet, not into an extension lead.

The solar pump plugs into the 240Vac socket marked as PUMP.

The pool sensor must be fitted into the suction line of the pump, as close to the pool as practical, preferably in a position out of direct sunlight. It is recommended that a 14.5mm hole be drilled in the PVC pipe, this can be carried out using a Dontek PD01 grinding drill or a small pilot hole can be drilled and a 14.0mm drill-bit used spinning in a counter clockwise direction to minimize the chance of shattering pipe. Insert the grommet into the pipe and gently push in the blue/grey sensor barb. The blue sensor plug is to be fitted to the plug socket marked POOL.

DO NOT cable-tie or tape sensor wires to mains power, In some cases there is some benefit to cable tie 30cm of wire from the sensor to the pipe and insulate this section [some ambient differences can travel up the copper wire and affect the sensor reading].

Roof sensors must be fitted into a small piece of solar collector or equivalent and attached to the roof. The best location is within an arm's length of the gutters edge of the house or shed as long as the sensor end is not shaded and is on a roof of similar aspect of the main collector. It **must not** be fitted on top of the solar collector or fitted to high points on the roof like Ridge Capping as false readings will be detected.

Keep in mind that it is of the utmost importance to keep the roof sensor as short as possible as this will assist in the longevity of the sensor and controller in the event of electrical storm activity and power surges. Sensor cables **must not be run parallel to power cables** and run lengths should be less than 50m. Cable ties should be used to fasten the sensor cable to the cold water inlet pipe making sure that the ties are approximately 10mm from PVC fittings. Cable ties should be tightened only firm, over tightening can cause breaks in the outer PVC if not careful. If the cable is to be run under ground a conduit must be used to protect the wire and there is to be no cable joins within, conduit ends **must** be sealed to prevent water ingress. **Any excess cable should be removed and re-fitted ensuring that the wire ends are tinned with solder.** The red sensor plug is to be fitted to the right hand socket marked ROOF.

### CONTROLLER OPERATION AND SETTINGS

#### TEMPERATURE LIMIT

To change the temperature limit that determines when to start or stop the pump simply press [or hold] the UP button to increase the desired temperature limit, the DOWN button will decrease it.

If the temperature limit is set below the current pipe temperature then the pump is automatically started for 3 minutes to test the true pool water temperature.

The controller will automatically choose to run the pump based on solar gain [i.e. the sun is shining & roof is hot] Once the desired temperature is achieved the pump is stopped and a four hour wait commences to ensure no energy is wasted by unnecessarily starting the pump. If after 4 hours the roof is hot enough then the pump may start to provide a 2<sup>nd</sup> heating cycle, if not then the "waiting for roof to warm" message will appear. If the pool

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achieves temperature limit during the 2<sup>nd</sup> heat cycle then it will start an economy/sleep mode, which will prevent the pump from starting for the rest of the day.

### **MANUAL PUMP MODE**

Holding the UP button to go above 40°C will toggle the pump from Off to On or vice versa, Manual mode will time out after 30 minutes of being selected, with a default temperature limit of 30°C

### **WINTER MODE**

Holding the DOWN button to go below 20°C will set the unit into WINTER mode, on selection of winter mode the pump will run for 3 minutes and will repeat this every day at the same time unless the power fails. Should there be an interruption to power then an exception takes place to prevent the pump starting at night, the sensors are tested to check that the roof sensor is 5°C or more above the pipe sensor, if this temperature condition is not met the display will show "waiting for roof to warm", once the pump starts the controller will wait 24 hours to perform another unconditional flush of the system.

### **SUMMER MODE**

Summer mode is the default mode of operation; if tropical mode has been selected you can change back to summer mode push both buttons and when SUMMER is displayed, released the buttons and use the up or down buttons to set the desired temperature. The controller will automatically heat the pool to this temperature when solar conditions are favourable.

### **TROPICAL MODE**

To activate tropical mode, push and hold both buttons and when "TROPICAL" is displayed, release the buttons and use the up or down button to set the desired temperature. In tropical mode the controller will attempt to heat the pool, if the pool exceeds the temperature limit while heating then the controller turns off the pump and waits for

the roof to cool so the controller can cool the pool down by dissipating the heat on the cold roof (most likely to occur at night). In tropical mode the controller attempts to keep the pool at the temperature limit by either heating or cooling as required.

### **NOTES**

1. If a sensor fault is detected the controller will display which sensor failed (POOL and/or ROOF) and the type of failure.
2. After a power outage all configurable items are retained & the clock (if used) will keep time for up to 14 days.
3. The sensor cable with the red trace is the positive and is usually fitted to the right hand side of the plug when looking at the plug screws, incorrect polarity may be displayed as a short circuit fault.
4. If the controller has stopped pumping and is displaying a higher temperature than expected it may be caused by a pump which is failing to prime, check the pump and if necessary prime the pump as per the pump manufacturers' instructions then reset the controller by turning it off/on.
5. Maximum rated output load for the 240V socket is 9.98 Amps / 2395 Watts.
6. Degree of protection against moisture: IP23

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## WARRANTY – AQUASUN 2

This range of product is covered by a limited 2 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 include on-site labour or travel costs to or from installation site.

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

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SERIAL NUMBER

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DATE INSTALLED

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For service assistance phone 1300 130 693



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