

# Aqua-Gen 3CD INSTRUCTIONS

**DESCRIPTION:** The Aqua-Gen 3CD is a premium automatic solar controller with temperature adjustment, manual, winter and tropical mode features. This unit is fitted with current detection on the auxiliary power socket; the solar pump can only operate if the filtration pump is operating and plugged into the auxiliary power socket.

## **TEMPERATURE LIMIT:**

To adjust the pool limit simply press the UP button to increase or the DOWN button to decrease the desired temperature.

The controller will automatically choose to run the pump based on solar gain (i.e. sun shining & roof is hot), once the pools desired temperature is exceeded by ½°C the pump is stopped until the pool temperature drops ½°C below the temperature limit setting.

## **MODE of operation:**

Pressing the SELECT button once will display the current mode of operation, pressing it again or holding it will select the next available mode of operation.

The available modes are SUMMER, MANUAL, WINTER, TROPICAL and SETTINGS.

**Summer mode** is the normal operating mode for heating the pool.

**Manual mode** is for testing the pump installation on a cold or cloudy day. Once manual mode is selected the pump will start if it has been off, or stop if it has been on (running). After 30 minutes manual mode will time-out and return to Summer Mode with a default temperature limit of 30°C. Note that Manual ON requires an operating filtration pump in the auxiliary power socket.

**Winter mode** of operation is for off-season maintenance or if pool heating is not required (*AWAY MODE*). This is a better option than turning off the controller as it will flush treated pool water through the solar system as well as prolong pump bearing and mechanical seal life. The pump will run for 3 minutes once a day 3 minutes after the filtration pump has started.

**Tropical mode** is for situations where the pool water overheats due to direct heating from the sun, beyond the set limit. When the roof is 4°C cooler than the pool temperature, the pump is started (this will most likely occur at night and requires the filtration to run at night) and will attempt to cool the pool to 1°C above the temperature limit. Normal heating will occur the next day if the pool drops below the set temperature limit by 1°C.

**Settings mode** is for setting the unit into time-clock operation.

When you select this option you will be asked if you wish to use the clock feature (CLK? ON/OFF).

If you select OFF then the controller will not work as a time-clock model and will allow the solar pump to run whenever there is solar heating available and if the filtration pump is operating. If you select ON you will be prompted to set the time of day, the controller will work in time-clock mode and the solar pump is prevented from starting outside of the set hours. (Unless tropical mode is selected). Set the time of day in 24 hour format, note there is an AM/PM indication to avoid incorrect settings. Seconds are automatically set to zero.

Once the time is set select the START hour from 6am till noon, default is 9am which means the solar pump cannot start before 9am.

Now select the END hour from 15 (3pm) till 21 (9pm), default is 19 (7pm) which means the solar pump will stop at 7pm.

## INSTALLER SETTINGS:

If setting the load value, please ensure your filtration pump is connected to the auxiliary power socket and that the pump has been running for at least 3 minutes.

To select these features, hold the DOWN button then press SELECT.

First you're prompted to adjust the differentials, followed by the load setting.

**Adjustable differential:** Special note: Adjusting these values to any setting other than the defaults may adversely affect the performance of this controller.

The first item prompted is to set the solar gain start temperature (RUN° x) this setting allows the pump to start if the roof temperature exceeds the pool temperature by this value, adjust with the UP/DOWN button, press SELECT to accept. Next you will be prompted to set the differential hysteresis (END° x) which turns the pump off when roof temperature is less than the pipe temperature plus this value, adjust with the UP/DOWN button, press SELECT to accept. Default values are 8° for RUN and 4° for END, these are the optimal values for maximum efficiency, some coastal locations may benefit from a reduced run value of 6°C for RUN and 4°C for END.

**Load Setting:** This is for setting the required load detected on the auxiliary power socket that allows a solar pump to run. First the actual load value is displayed the value you select should be 10-15 below the value shown. For variable speed pumps this will need to be set while the pump is running at its lowest required speed.

Adjust with the UP/DOWN button, press SELECT to accept, default is a load of 20.

Once the Advanced settings have been adjusted all the above settings will be saved and the unit will restart. Re-adjust the temperature limit if required.

### Factory Test:

To run the factory test, hold the SELECT button when first applying power, the unit will perform a series of self-diagnostic functions with the pump running.

If there are any faults they will be reported on the display before the unit restarts into normal operation.

*Note: that this will force all settings to a factory default state. Re-enable time-clock if required also reset the Load start value, temperature limit and operating mode to their required settings.*

## 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. Temperature sensors used with this unit is digital and is accurate to 0.5°Celsius, no calibration is required.
4. The sensor cable with the thin trace is the positive and is fitted to the right hand side of the green plug when looking at the plug screws, incorrect polarity will be displayed as a short circuit or reversed fault.
5. A filtration pump that uses too much current can bring up an OVERLOAD condition. Disconnect power & check the condition of the filtration pump, this will prevent the solar pump from running.
6. When the auxiliary power socket detects the filtration pump starting it will perform a 3 minute checking sequence that ensures there is suitable temperature & water flow before the solar pump will start. When the filtration pump is stopped the solar pump is also stopped.
7. Maximum total rated output load is 10 Amps 2400 Watt.

## WARRANTY - Aqua-Gen 3CD

This range of 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.

Return to supplier for repair

### Customer Record (to be retained by the customer)

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

Model Number: Aqua-Gen 3CD \_\_\_\_\_

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

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

For service assistance phone 1300 130 693

Dontek Electronics Pty Ltd  
PO Box 239  
Bayswater, Victoria 3153  
[www.dontekelectronics.com.au](http://www.dontekelectronics.com.au)

Return to Manufacturer for repair