WARRANTY – V2

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.

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)

Dealer/Installer Name.....

Model Number.....

Serial Number.....

Date Installed.....

.....

For service assistance phone 1300 130 693

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MODEL V2-1 Deluxe Digital Solar Controller

OPERATING INSTRUCTIONS

Summer Mode is normal operating mode used during the Pool Swimming Season. You may set the desired pool limit by pressing the UP or Down Buttons. The display shows the pool temperature then flashes the limit setting and light, the pump light and pump will be on when solar gain is available.

Manual Mode is used to prime, clean or test the pump. To select manual mode press the SELECT button until the PUMP/MAN light is illuminated. The pump will then start, or stop if it has been running. To return to normal run simply press the SELECT button till the AUTO light is illuminated. The V2 will automatically return to AUTO run after 30 minutes, with a limit of 30 degrees.

Winter Mode should be selected when the pool is not being used for extended periods. The pump will be turned on for 3 minutes every day at the same time Winter Mode was selected. This will assist in the systems off-season maintenance and save energy. To enter this mode press the SELECT button till the WINTER light is illuminated. When a flow switch is used ensure the winter mode is activated during the filter run times only. If the power is interrupted during winter mode the V2T will continue to count time accurately.

Tropical Mode is used to assist in cooling over heated pools. If the limit has been reached, which is indicated by the limit light on, and the roof temperature drops below the limit temperature (usually some time late at night) the pump will turn on and pump pool water to the roof to cool it down. The pump will turn off when the pool water is cooled to the limit setting. To set this function press the SELECT button till the TROP light is illuminated. To switch back to Summer Mode press the SELECT button till the AUTO light is illuminated.

Retro-Fit (Boosted) Systems - Optional

When solar gain is achievable the V2 Controller detects *constant* water flow from the main filtration system, the Pump light will flash for thirty seconds and then the solar boost pump will start. When filter back washing is to be carried out the power to the V2 controller must be turned off. If Winter Mode is to be selected, ensure that it is set during normal filter times and the main filter pump is running.

OPERATION

The V2 will turn the pump on when the roof temperature is higher than the pool (pipe) temperature by 8°C. If a pressure switch is fitted the V2 will flash the pump light for 30 seconds when constant flow from the main filter pump is first detected, then start the booster pump. When the pool temperature reaches the limit setting the limit light will flash, it will remain in this state while the roof is hot to prevent over heating the pool. The V2 will then wait for night time to pass and the roof to reach 40°C the next day to start the process again, this is to prevent the solar starting too early in the morning. If the roof does not achieve 40°C the following morning the system will break out of it's hold mode 12 hours from when the pool first reached limit. These functions are to minimise the pool from over heating, hence reducing water evaporation and consumption of chemicals. An auto flush program is incorporated to ensure accurate pool temperature readings are obtained as the pool sensor is normally located well away from the actual swimming pool and may sit in direct sunlight or in warm enclosures, the last recorded pool temperature will be displayed for 6 hours from when the pump was last running. When auto flush is in wait mode the limit light will be on constant until the pump is turned on for a three minute test, the pump light will flash until this test is over. The auto flush functions do not occur when the pressure switch option is turned on as accurate water temperature is being read. The roof temperature is displayed when first turning the power on for 3 seconds.

INSTALLATION INSTRUCTIONS

Controller Mounting
Find a suitable location to mount the control box. Ideally as with all pool equipment it should be installed out of direct weather and no closer than 3 meters from the waters 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.

Pressure Switch or Flow Switch for Retro-Fit (Boosted) Systems - Optional
If the V2 Controller is to be fitted to a Retro-Fit (Boosted) System the mains power cable is to be plugged into its own power point. A Pressure Switch should be fitted between the main Filter Pump and Filter or a Flow Switch straight after the filter. All must be in a vertical position and plugged into the left hand plug socket beneath the controller. This will ensure that the booster pump only activates if the main pool pump is operating. When a Pressure or Flow Switch is to be used the controller must have this function turned on. To do this ensure the power is turned off, remove the lid and move the black jumper link marked **J1** to connect pins 5 + 6. Refit lid and switch power back on, a 33 will briefly be displayed during start up. To switch off the pressure switch mode simply reverse the process.

Pool Sensor
For stand alone systems with separate suction and return the pool sensor must be fitted into the suction line of the solar boost pump, preferably in a position out of direct sunlight. For retro-fit systems the pool sensor must be fitted in the suction line of the main filter pump or between the outlet of the filter and before the take off Tee fitting for the solar boost pump. 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 black sensor barb. The green sensor plug is to be fitted to the centre plug socket.

Roof Sensor
Roof sensors must be fitted into a small piece of solar collector or equivalent and attached to the roof. The best location is within arms 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 sensor plug is to be fitted to the right hand socket.

Notes

All excess cable must be removed; coils of cable are not permitted under any circumstances and **must not** be tied to 240V wiring. If the cable is to be extended with non genuine cable a size of 14/020 should be used. **Any cable joins must be soldered and this includes where the cable enters the terminal block at the case base.** Heat shrink is to be used over soldered joints to eliminate moisture ingress. If the cable end is to be refitted to the plug sockets then the polarity must be observed as incorrect polarity will show an error as stated in Fault Diagnosis. The sensor cable with the thin white trace is the positive and should be fitted to the right hand cable entry when the screws are in a vertical position.
Once cables have been correctly fitted the unit can be turned on.

Fault Diagnosis

In the event of a cable or sensor failure, the display will indicate the type of failure as follows;

ROOF SENSOR.
A display of 99 indicates a broken or disconnected sensor cable or open circuit sensor.
A display of 88 indicates wrong polarity connection or short-circuited cable or sensor.
A display of 89 indicates a high sensor reading out of normal operating range.
A display of 00/03 indicates an over extended or coiled sensor cable.

POOL SENSOR
A display of 77 indicates a broken or disconnected sensor cable.
A display of 66 indicates wrong polarity or short-circuited sensor cable.
A display of 67 indicates a sensor reading out of normal operating range.

Return to supplier for repair