

INSTALLATION INSTRUCTIONS

Controller Mounting

The controller enclosure must be firmly attached to the storage tank or nearby solid fixture by either the two mounting lugs or direct attachment through the controller. If mounting through the controller ensure the power cord is disconnected from the mains supply then remove the enclosure front cover by turning the four corner locks so each arrow points to the 'O' marked on the front cover. Insert two mounting screws diagonally through the oval holes in the enclosure, refit front cover and turn the four corner locks to the 'I' position.

Temperature Sensors

All sensor wires should be fixed in a manner that they are not under tension or attached to the hot water return pipe. Conduit should be used if wire cannot be easily pulled or if underground. All excess cable must be removed. Coils of cable are not permitted under any circumstances and **must not** be tied to or run in parallel 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.

Tank Sensor

The tank sensor must be located to read true tank temperature. Do not mount the sensor on a water pipe (temperature will not be accurate when there is no water flow)

Collector Sensor

Collector Sensor placement will depend on the Solar Collector Panel, refer to the panel's manufacturer for optimal placement.

S2 Sensor - Optional

If this option is fitted then the S2 sensor will display temperatures for monitoring purposes, no action is taken on this reading, fault codes are not displayed for this sensor socket as its not required for normal operation.

Anti Freeze Feature

This controller is fitted with an anti freeze feature that overrides all other operating modes. Once the collector temperature drops to 5°C or less then the pump operates for 10 seconds and is then stopped for 3 seconds, this process will continue until the roof is above 5°C.

Clock

The unit has a clock which prevents the pump from starting between 21:00 & 03:00 (9:00PM till 3:00AM) See operating instructions on setting the correct time. *This feature is OFF by default so heating can occur at anytime, this feature is provided only if required (i.e. delayed start).

Fault Diagnosis

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

TANK SENSOR

A flashing display of 7_ indicates a broken or disconnected sensor cable.

A flashing display of 6_ indicates wrong polarity or short-circuited sensor cable.

COLLECTOR SENSOR.

A flashing display of _9 indicates a broken or disconnected sensor cable or open circuit sensor.

A flashing display of _8 indicates wrong polarity connection or short-circuited cable or sensor.

S2 SENSOR

No faults are displayed for this sensor socket, if you suspect an S2 sensor fault it can be tested by using the TANK or COLLECTOR socket and observing the fault codes show above.

NOTES

All sensors used are digital and are accurate to 0.5°C without the need for calibration.

Do not use a multi-meter to measure resistance of the sensor as you may damage the sensor.

Digital signals are used to communicate to and from the sensors therefore it is important to keep the sensor cables away from possible sources of interference.

Return to supplier for repair

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

Dontek Electronics Pty Ltd
P.O. Box 239
Bayswater
Victoria 3153
www.dontekelectronics.com.au

MODEL V2-1 HWC Digital Solar Controller

OPERATING INSTRUCTIONS

To display the current temperature limit momentarily push the UP or DOWN button and the current temperature limit will be displayed, this is the temperature the system will attempt to heat the tank to if solar gain (heating) is available. The LIMIT LED (Light Emitting Diode) will be lit when the UP or Down buttons are pressed.

To change the required temperatures hold the UP or DOWN button until the desired temperature is displayed, then release the button. (5°C of adjustment is available)

To select the mode of operation press the SELECT button until the desired mode LED is lit, available modes are AUTO, PUMP/MAN, ROOF, AWAY, S2. Operating modes are described below.

AUTO – Auto mode is the normal operating mode. You may set the desired tank limit (by pressing the UP or Down Buttons). The display shows the tank temperature, the PUMP/MAN light will be on when solar gain is available.

PUMP/MAN – LED lit constantly indicates that the pump is on, LED flashing indicates Manual Mode is active, and can be used to prime, clean or test the pump. If the pump was running when manual mode was selected then the pump will be stopped. If the pump was stopped when manual mode was selected then it will be started. To return to normal run simply press the SELECT button till the AUTO LED is illuminated. The V2 will automatically return to AUTO run after 30 minutes, if the unit was in AWAY mode then the temperature will also default to 55°C

ROOF - when roof LED is lit the display shows the roof sensor temperature, a hot roof indicates that solar gain is available, if left unattended in this mode the V2 will automatically return to AUTO run after 3 minutes. If the unit was in AWAY mode then the temperature will default to 55°C

AWAY – Away mode operates the same as AUTO mode but with a 10°C reduced temperature range to increase efficiency while the premises are unoccupied.

S2 (OPTIONAL) - When the S2 LED is lit the display will indicate the temperature of the S2 sensor, if no sensor is fitted the display will show 00.

CLOCK – A clock is fitted which prevents the pump from starting between 21:00 & 03:00 (9:00PM till 3:00AM) the AUTO LED will be flashing to indicate this 6 hour period.

To set the clock HOLD the UP and DOWN Buttons until the display goes blank, then release. The AWAY (M) LED will be flashing, use UP or DOWN buttons to adjust to minutes of the hour, press SELECT to accept, the S2 (H) will now be flashing, use UP or DOWN to adjust to hours of the day (24 hour format) and press SELECT to accept, The V2 will resume the previous operation, to disable the time-clock function, simply set the time to 00:00

OPERATION

The V2 will turn the pump on when the collector temperature is higher than the tank temperature by 8°C and off at 4°C when this occurs the PUMP/MAN LED will be lit. When the tank temperature reaches the limit setting the LIMIT LED will be lit and the PUMP/MAN LED will be off, it will remain in this state while the roof is hot to prevent over heating the tank past the desired limit. The V2 will then wait for the tank temperature to drop by 2°C before heating can resume.