AQUASMART 5 RP

Instruction Manual

dontek
ELECTRONIC MANUFACTURING

DESCRIPTION

The AQUASMART 5 RP is a premium automatic solar controller with temperature adjustment, manual, cooling and standby mode features.
Wireless remote roof sensor - Solar Panel (PV)

INSTALLATION INSTRUCTIONS

⚠ THIS APPLIANCE IS NOT INTENDED FOR USE BY YOUNG CHILDREN OR INFIRM PERSONS WITHOUT SUPERVISION. PLEASE ENSURE THAT YOUNG CHILDREN ARE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE APPLIANCE.

CONTROLLER MOUNTING

Find a suitable location to mount the control box[*radio note]. Ideally, as with all pool equipment, it should be installed out of direct weather and no closer than 3 metres from the water's edge and a minimum 600mm above ground. Fix the mounting bracket to a solid structure and slide the controller on, 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.

PUMP CONNECTION

The solar collector pump plugs into the 240V socket labelled PUMP.
The maximum load is 9.98 AMPS at 2395W.

POOL SENSOR

The pool sensor must be fitted into the heating circuit, 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 side of the PVC pipe (not the top of the pipe where water will collect). This can be carried out using a Dontek PD01 grinding drill or a small pilot hole can be drilled with 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 sensor barb. Ideally ~30cm of the cable from the sensor should be tied to the shaded side of the pipe to prevent extreme ambient conditions leeching into the sensor via the copper in the cable. The blue sensor plug is to be fitted to the plug socket marked POOL.

REMOTE TEMPERATURE ROOF SENSOR

The roof temperature sensor 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.
This unit has been designed to eliminate the need to run a temperature sensor cable from the solar controller to the roof; this is replaced by a solar powered transmitter that transmits the roof temperature. The roof temperature sensor cable is connected on the inside of the radio remote temperature transmitter in a screw in socket. Test for site suitability (*radio note) then mount the radio remote temperature transmitter on the gutter ensuring the solar panel (PV) faces north and the antenna points up (Vertical), if the antenna faces down then water may enter the box through the power entry / sensor entry hole and void the warranty.

*RADIO NOTE: RADIO TRANSMITTER SPECIAL CONSIDERATIONS

Do not permanently fix the radio transmitter until good reception is achievable (See site AQUASMART RP Instruction test); do not mount the AQUASMART in a position where reception of radio signals may be difficult, avoid mounting near other electrical equipment. The range is 100m with no obstructions and with no interference from other transmitters or sources of electrical noise. Also be aware that equipment installed afterwards may also interfere with radio reception. Transmission may not occur through objects such as steel, aluminium, re-enforced concrete and large bodies of water (e.g. pump room under a pool). Line of sight is the ideal situation but not always possible, the antennas should always remain vertical. Echo cancellation or ghosting may occur, which will prevent the signal being received reliably. If the Aquasmart RP is to be installed in a metal shed there may be reception issues and the controller may need to be optioned antenna extension or moved outside. *Other Notes*: Both the transmitter and receiver are tested as a set to 100 metres; do not mix different transmitters with different receivers. Read and understand this manual before going on site. Ensure the customer also understands the workings of the controller before leaving the site.

SITE TEST

Place the radio transmitter in the approximate location. Select test mode on the AQUASMART by holding the DOWN button for 3 seconds while you apply power, this activates a mode where only roof temperature transmissions are shown. Once you release the down button the AQUASMART screen indicates RX TEST. Verify that every 5 seconds the LCD displays the temperature (e.g. TEST 32°). Check that this sequence is repeated for about half a minute and ensure no transmission is missed. If a transmission is missed it may be due to an echo or ghosted signal, move the location of the radio transmitter or the location of the Aquasmart RP and retest. If no transmission is missed mount the transmitter and repeat the test, check that no transmission is missed for 2 minutes. Turn OFF power to the AQUASMART and then permanently mount the radio transmitter. Return to the AQUASMART restart the RX TEST and ensure it continues to receive the transmission, move the location of the AQUASMART if required. Permanently mount the AQUASMART when satisfied that the AQUASMART is receiving the transmissions consistently.
During normal operation the software allows for missed transmissions, but when more than 50 minutes elapse without a transmission then the temperature value will timeout and will be indicated by the "Waiting for roof transmission" message.

REPORTED TRANSMITTER FAULTS

If the following messages are displayed, then action is to be taken to rectify the fault(s)

"WAITING FOR ROOF TRANSMISSION"
The AQUASMART cannot receive a roof temperature from the radio transmitter or more than 50 minutes have elapsed since the last transmission, check installation as per instructions.

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"ROOF SENSOR DISCONNECTED"
Check that the temperature sensor is firmly connected to the terminals. Cable joints must also be soldered and sealed (preferably with heat shrink). An unbroken but damaged cable can also cause this fault

OPERATING INSTRUCTIONS

LCD SCREEN

The LCD screen displays the pool and roof temperatures, solar temperature limit, pump on status, on/off/locked-out status and the time of day & date (clock).

LCD INDICATORS

There are arrow icons on the LCD screen that point to current mode text on the label.

MODE BUTTON

Pressing this button changes to the next mode of operation in the following order; Heating / Manual / Standby.
Once the mode button is no longer being pushed then the selected mode of operation is automatically saved.

Heating mode (Auto) 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. After manual mode time-outs, unit will return to the previous mode.

Standby mode of operation is for off-season maintenance or if pool heating is not required. 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 each day from when the Standby mode was selected or at 10am if the time-clock mode was selected

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**The factory default for SOLAR MODE is Heating MODE

↑ AND ↓ BUTTONS (TEMPERATURE SETTING)

Adjusting the temperature limit will allow the controller to heat the pool until the temperature limit +½°C is achieved, heating will then remain off until the sample wait period expires, if no sample wait period is active the heating will remain off until the pool temperature drops ½°C below the temperature limit setting, due to rounding the actually heating hysteresis is ±½°C.
The ability to solar heat the pool will depend on weather conditions.
** The factory default for SOL. LIMIT is 30°C

ENTER BUTTON

Pressing the ENTER button will turn on the LCD backlight, pressing the ENTER button while the backlight is lit will enter the SETTINGS MENU;
The following will be displayed;

1) EXIT

The menu system can be navigated using the ↑ or ↓ buttons, all selectable and changeable values will flash on the LCD screen. Press the ENTER button to accept the currently displayed (flashing) item.
All menu items are shown below;

1) EXIT
2) CLOCK
3) SYSTEM

1) EXIT

Press ENTER on this menu to return to automatic operation.

2) CLOCK

When selecting the clock you will have to set the time of day.

3) SYSTEM

System sub-menu;

EXIT
LCD TIME
HOURS

EXIT - Press ENTER on this menu to return to automatic operation.
LCD TIME – Adjust the number of seconds the backlight remains on after the time a button was pressed. (Select NONE for always on.)
HOURS – is for hours of solar operation *(24hr)* first selecting the start time in hour intervals *(6:00 – 12:00)* Then the end time *(12:00 – 21:00)* ***Factory default for installer setup is run from 12:00-12:00 (24hrs).***

INSTALLER SETUP:

TO ASSESS MENU PRESS ENTER SCROLL DOWN TO SETTINGS AND PRESS THE MODE BUTTON WARNING PROFESSIONAL ONLY SETTINGS!!

RESTORE DEFAULTS – Restore back to factory defaults
RUN – When the roof temperature rises to pool + run then the solar will start.
END – When the roof drops below pool + end then the solar will stop
BOIL? - Anti boil function (on supported controllers) when switched to ON will start the pump when the roof temperature rises to the selected temperature and operates for 5 minutes every 15 minutes until the roof temperature rises above the selected temperature.
PIPE PROTECTION - For use when solar collectors are flooded, flat and will require a wetted roof sensor for this mode.
CAL – Calibrate the pool sensor.
ROOF SENSOR – Allows the use of a wired roof sensor cable temporarily, if the PV Unit has been damaged

NOTES:

1. If any of the menu items are left unattended for 3 minutes the menu will time out and automatically save all settings and return to automatic operation.
2. If a sensor fault is detected the controller will display which sensor and what the fault is.
3. Should power be interrupted for any reason, the controller will resume normal operation when power is restored, all information will have been kept for 10 days.
4. If the controller has stopped the pump 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 combined rated output load for the 240V socket(s) is 9.98 Amps / 2395 Watts.
6. Degree of protection against moisture: IP33.

WARRANTY

- This range of product is covered by a limited 3 year warranty against component failure or faulty workmanship from the date of installation.
- Faulty units 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

SERIAL NUMBER

DATE INSTALLED

For service assistance visit *www.dontek.com.au*

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