



# AQUATEK

## QUICK START GUIDE

# Installation & Setup



## Master Controller & Expansion Unit/s Installation

*Ideally, as with all pool equipment, the controller should be installed out of direct weather.*

- The controller should be mounted no closer than 3 metres from the water's edge, at a minimum of 600mm above the ground. The power cable is 1.8m long and should be plugged directly into a general power outlet, **not into an extension lead**.
- Find a suitable location to mount the control box.
- Fix the mounting bracket to a solid structure with the screw and wall plug kit provided. Slide the controller on, locking it into place. Adjust the screws on the back of unit to ensure a snug fit.
- To remove unit, lift and gently pull away from structure.

***Do Not turn the power on to the Master Controller or Expansion Units until all the following criteria has been met.***

- Install Pool sensor as per instructions on page 3 of the manual.
- Install Roof sensor (if option chosen) as per instructions on page 3 of the manual.
- If required, plumb and install any Valves and Valve Actuators that are required to run the system. Plug the cable from the Valve Actuator/s into the Valve sockets located beneath the Master Controller [see diagram located on p4 of the manual for location]. Up to 4 Valve Actuators can be installed and controlled.
- If a Gas Heater or Heat Pump is installed, then connect either the Heater Interlock cable or the Pump Call cable as per the instructions under HEATER CONTROL on p2 of the main instruction booklet.

**REMEMBER: *If the heater's flow or pressure switch circuit is 240Vac, an external relay can be purchased separately and is to be installed (KIT10 or KIT11) by a licensed electrician.***

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## Installation Continued

- Plug the communication cable from Expansion Unit 1 (if optioned) beneath the Master Controller.
- Plug the communication cable from Expansion Unit 2 (if fitted) beneath the Expansion Unit 1.
- Plug in the Filtration Pump. If you have a variable speed pump, go to the next page to see the required wiring diagram for the brand/series of pump to be used.

***If the brand of pump installed is one of the following, Reltech, Theralux, Hayward, Speck, Henden, Insnrg, or Sunlover Oasis V Series, a motor cable needs to be purchased separately.***

If the filtration pump is a single speed pump, plug it directly into one of the power sockets located on either the Master Controller or on an Expansion Unit.

The pump may be plugged into the Sanitiser pump outlet and the Sanitiser plugged into the controller power outlet. In Appliances you would set this outlet to be the Filter Pump.

***Note:*** *In this situation, whenever the pump is turned on the Sanitiser will also be turned on. This will mean during the course of other features being run, (ie heating, water features, etc) extra sanitisation (above what is set in the filtration cycle/s) will occur.*

Plug all other appliance power cables that will be controlled by the AQUATEK into the power sockets located beneath the Controller or the Expansion Unit/s, ensuring that maximum current loads are not exceeded.

Max Current Loads are as follows:

Master Controller [2 power outlets]	9.9 Amps / 2370 Watts,
10Amp Expansion Unit [3 power outlets]	9.9 Amps / 2370 Watts
15Amp Expansion Units [3 power outlets]	14.9 Amps / 3570 Watts

## SETUP

**This sequence must be followed:**

- Turn the controller on at the power point, wait for 10 seconds before turning the power on to the first Expansion Unit. Wait a further 10 seconds before powering the second Expansion Unit, if fitted.

This sequence is to ensure that the Master Controller recognises the Expansion Units in the correct order. Do this within the first 2mins while the Master Controller is actively scanning. The Wi-Fi Indicator should be slowly FLASHING

- Enter the menu by pressing the Menu button twice, move ↑ or ↓ to highlight Installer Menu, press Enter.

Move through the Installer Menu options until 6.10 Expansion Unit is highlighted, press Enter.

*You are looking to ensure that the Master Controller has recognised that there are Expansion boxes connected.*

Press Enter, then use the ↑ or ↓ buttons to change the number of Expansion Units required: 0, 1, or 2.

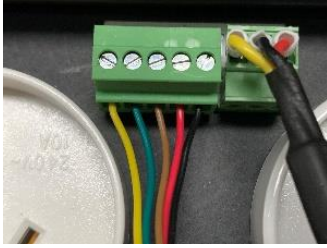
Once the amount you require is displayed, press Enter to accept.

Press Enter to accept NO for Resetting the Expansion addresses.

**Connect the controller to the Wifi network.**

## 5 PIN PUMP CONNECTION PLUG

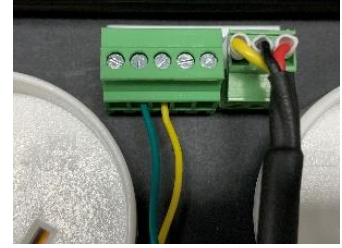
- THERALUX
- RELTECH
- SPECK
- HENDEN



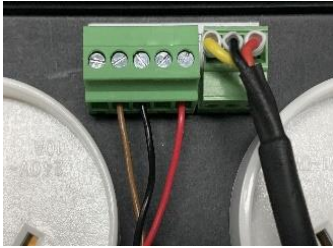
- THERALUX 485
- HAYWARD 485



- PENTAIR VS/F



- DAB



- INSNRG (SUPPLIED BY INSNRG)



- INSNRG (CAT5 CABLE)



- RELTECH 485 P
- OASIS V SERIES



- PENTAIR ENVIROMAX 1500



- THERALUX - RELTECH - SPECK - HENDEN	Yellow Wire	Green Wire	Brown Wire	Red Wire	Black Wire
- THERALUX 485 - HAYWARD 485	Black Wire	Yellow Wire	Green Wire	Red Wire	Brown Wire
- PENTAIR VS/F	None	Green Wire	Yellow Wire	None	None
- DAB	None	Brown Wire	Black Wire	None	Red Wire
- INSNRG (SUPPLIED BY INSNRG)	None	White/Orange Stripe Wire	Orange Wire	None	None
- INSNRG (CAT5 CABLE)	None	Brown/Brown Stripe Wire	Brown Wire	None	None
- RELTECH 485 P - SUNLOVER OASIS V SERIES	Green Wire	Brown Wire	Black Wire	Yellow Wire	Red Wire
- PENTAIR ENVIROMAX 1500	Brown Wire	Orange Wire	Yellow Wire	Green Wire	Red Wire

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# Pump Priming & Connection

## 1. Reltech P [485] / Oasis V Series

### 1.1. Turning Off Priming

- a) Quickly press the 'stop' button three times.
- b) The display will show 'P Of' when priming is turned off.

### 1.2. Turning On 485 Communication

- a) Hold the 'stop' button for 10 secs.
- b) The display will show e.g. 'P 5' [to select priming time in minutes]. Press 'set' button to move to next.
- c) The display will show e.g. '2400' [to select priming speed in RPM]. Press 'set' button to move to next.
- d) The display will show 'Rb Of'. Press Up or Down button to change to 'Rb On'. Press 'set' button to confirm.
- e) When communication with Aquatek is successful, the display will show '- - - -'

## 2. Pentair enviroMAX 1500

### 2.1. Turning Off Priming

- a) Press the 'Start / Stop' button to start the pump.
- b) The display will alternate between 'Pri' and '2800' and '04:59' to show priming at 2800 RPM for 5mins.
- c) Press the '-' to turn the priming speed down; when it reaches below 1700, priming is turned off.
- d) The display will then alternate between 'Pri' and 'Off'.

Note: External control must be off.

### 2.2. Turning On External Control

- a) Stop the pump by pressing the 'Start / Stop' button.
- b) Hold the 'Start / Stop' button for ~5 seconds.
- c) The light next to 'Ext. Control Only' will be lighted green.
- d) Press the 'Start / Stop' button.
- e) The light next to 'Start / Stop' will be lighted green.

## 3. Pentair VS/F

### 3.1. Turning Off Priming

- a) Disconnect the RS-485 communication cable from the pump.
- b) On the pump control module, press **Menu** and use the **Arrow** buttons to scroll and select "Priming".
- c) Use the **Arrow** buttons to select "Disabled", then press the **Back** button to exit the menu.
- d) Re-install the communication cable to the pump.

### 3.2. Turning On External Control

- a) Press the **Menu** button, use the **Up** or **Down** arrow to scroll to **Ext Ctrl** and press **Select**.
- b) "Program 1" will be displayed and press **Select** to enter.
- c) "Operation Mode" will be displayed, press **Select** and use the **Up** or **Down** buttons to choose between "Enabled" or "Pump Off", press **Save**. *Note:* the program must be enabled to proceed further into the menu.
- d) Use the **Up** or **Down** arrow to scroll to "Set Type" and press **Select**.
- e) Use the **Up** or **Down** arrow to choose between "Speed" or "Flow" settings and press **Save**.
- f) Use the **Up** or **Down** arrow to scroll to "Set Speed/Flow" [depending on what was chosen in the previous step], press **Select** and then use the **Up & Down** arrows to adjust the speed/flow settings to what is required & press **Save**.
- g) There is no need to set a "Stop Delay" so press the **Save** button to save your settings and then press **Back**. This will allow you to set "Program 2".
- h) Use the **Up** or **Down** arrow to scroll to "Program 2" and repeat steps b) to g) for programs 2 to 4.

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## 4. Hayward 485 / Theralux 485

**Note:** Theralux pump will be supplied with 485 communication already enabled. If it isn't, follow the steps below.

### 4.1. Turning Off Priming

- a) Priming is automatically taken off when the below connection process [4.2] is done.

### 4.2. Turning On 485 Communication

- a) Hold stop, press speed 2 to show "LOW".
- b) Press speed 1 until the screen shows "IO".
- c) Press speed 2 to show "485".
- d) Press stop to save settings.

Once there is control over the pump, the pump will show "NBUS".

## 5. Insnrg 1100

### 5.1. Turning Off Priming

- a) Press Enter, scroll to Priming.
- b) Set Minutes to 0

### 5.2. Turning On External Control

- a) Connect the pump control cable between the pump and the Aquatek controller and control is automatically instated.

## 6. Reltech/Theralux/Speck/Henden [with Fasco Motor]

### 6.1. Turning Off Priming

- a) Disconnect the pump communication cable from the pump
- b) Press and hold the Stop button for 10 seconds to remove the priming function.
- c) If required, adjust pump speeds [as per manufacturer's instructions] to suit then save prior to reconnecting the communication cable.

## 7. DAB E.Swim

### 7.1. Turning Off Priming

- a) Scroll to select the Settings Wheel [⚙️] Press Enter.
- b) Scroll to Priming and press Enter.
- c) Change Enable to NO.

### 7.2. Turning On External Control

- a) Scroll to select the Settings Wheel [⚙️]. Press Enter.
- b) Scroll to External Control and press Enter.
- c) Scroll to Settings and press Enter.
- d) Change config to ENABLE.
- e) Change source speed to 4-20mA.

# App Based Setup

1. Download the APP prior to installation. Once the App is installed, it will ask you to scan the QR code of the controller.

The QR code is located on the back of the Master Controller or in the box located on the back page of this Quick Start Guide. Return to the Main Menu in the App.

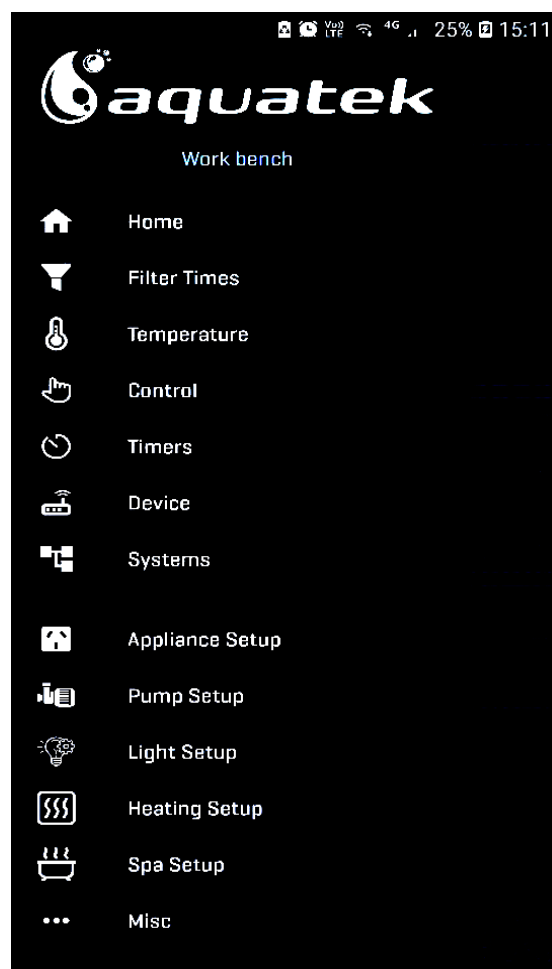
2. Ensure all items the Aquatek will be controlling are connected, and plugged in.
3. **Make sure that the Wi-Fi network that the Aquatek will be connected to is turned on and setup to run on 2.4Ghz frequency band. If it is, then use the Smartphone Connection process [as per the below] or if not then utilise the Dual Band setup on the next page.**
4. Turn the controller on at the power point, **wait for 10 seconds** before turning the power on to the **first Expansion Unit. Wait a further 10 seconds** before turning on the **second Expansion Unit, if fitted.**

When the controller is turned on, an arrow should be blinking in the lower right-hand corner of the controller's LCD screen [above Wi-Fi on the label]. If the arrow isn't blinking, turn the Master Controller OFF and ON 5 times.

## Connecting your Aquatek to Wi-Fi

### Smartphone Connection

5. With the Aquatek controller powered on, open the menu in the App. Click on the menu option Device. This will open another menu screen, click on Wi-Fi Connection 'Setup'.
6. With the Aquatek controller powered on, open the menu in the App. Click on the menu option Device. This will open another menu screen, click on Wi-Fi Connection 'Setup'.
7. When you enter Wi-Fi Connection 'Setup', the customers Wi-Fi network name should be displayed. You will need to enter their password on the line below and then press either proceed or confirm. *Note: Needs to be done while the Wi-Fi arrow is blinking.*
8. The App should display that the 'Device is Connected'. Once connected, click on the Device option, then Device Information. In this screen the App will display if there is a software update [for the controller] to be downloaded. If there is, go ahead and update the system. The controller will re-start itself when the update is complete. From here you can go back to the main menu of the App. You will then be able to setup the system through the App.
9. **Start in the menu option 'Appliance Setup'** and work down through the menu options [Pump Setup, Light Setup, Heating Setup, Spa Setup and Misc] before returning to setup Filtration Times, Temperature, and Timers.



#### Notes:

- *If you notice that the App and or controller is slow to react or you are losing connection to the controller, check the Wifi signal strength [as described in App Features] as you may benefit from a Wi-Fi extended being installed.*

When completed the App will display all settings currently set in your controller. You can select or alter any of the settings that are currently active in your Master Controller.



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# Controller Interface [For Dual Band Networks]

## NEW CONNECTION

This method is done through the controller itself, when the controller has *never* been connected to a Wifi network previously.

- If the controller has previously been connected to a Wifi network and you are trying to connect the controller to an extender/or a different Wifi network, then follow the “Previously Connected” process further down the page.

1. Press “Menu” twice. The controller will display “1. Filter Times”.
2. Use the arrows to locate “6. Installer Menu”. Press “Enter”.
3. The controller will display “6-1 Appliances”.
4. Use the arrows to locate “6-12 Wi-Fi”. Press “Enter”.
5. The controller will display “Wi-Fi On Off”.
6. Ensure “On” is blinking. Press “Enter”.
  - If “Off” is blinking, use the arrows to change before pressing “Enter”.
7. The controller will display “Wi-Fi Network”. Press “Enter”.
8. The controller will display “Search Wi-Fi Network Yes No”.
9. Use the arrows to ensure that “Yes” is blinking. Press Enter.
10. The controller will briefly display “Searching for Wi-Fi Network” before displaying local Wi-Fi networks & strength of the network.

- 80 to -90dBm signals a weak connection.
- 60 to -80dBm signals a moderate connection.
- 60 + signals a stable connection.

11. Use the arrows to find the network you would like to connect to & press “Enter”.
12. Enter the password to the network & press “Enter”.
  - Press “Spa” to choose between lowercase/uppercase letters, numerals or symbols.
  - Use the arrows to cycle through characters.
  - After 3 seconds of resting on an option, you will be able to choose the next character.
  - Press “Back” to remove the last character.

## PREVIOUSLY CONNECTED

1. Follow steps 1-8 as per the above instructions.
2. Instead of entering “Yes” for “Search Wifi Network” you will Press Enter on “No”.
3. The controller will display “Reset Wifi Settings Yes No”
4. Use the arrows to ensure that “Yes” is blinking. Press Enter.
5. The controller will display “Wifi Settings Reset OK”. Press Enter.
6. The controller will display “Restart Controller Yes No”.
7. Use the arrows to ensure that “Yes” is blinking. Press Enter.
8. The controller will restart itself and revert to displaying normal running processes.
9. Follow the steps 1-12 as per the above instructions for a controller that has never been connected to a Wifi Network.

Controller will say that it is connected to Wifi and then you will be able to utilise the App to set up the system.

# APP FEATURES

- **Documentation:** PDF files of the Quick Start Guide and the full Manual.

Copies of the Quick start Guide and the full Manual are available for download and viewing if they are required. On an Android phone this is located on the home screen. Simply click on the 3 vertical dots located in the top right-hand corner of the app screen then select About.

On an iPhone, this feature is located in the menu option 'Device', then click on 'Device Information' then 'About'

- **QR Code – Share:** A simple and easy way to add users that have downloaded the App.

Located through the menu option 'Device', select the Share button and the QR code will appear on your phone screen. The user that is being added will instead press the scan button and scan the QR Code off your phone screen. The new user will then be able to see all settings that have been installed and have complete access to the system unless the Installer Menu is locked [see below].

- **Installer Menu:** Lock Access to the Installer Menu

Located through the menu option 'Device', the Installer Menu can be locked once the system is set up to prevent equipment settings being altered by users who may not know how the system needs to be set up. Doing this will only enable people with the password to have access to the Installer Menu. Once locked, the Installer Menu options won't be visible in the menu screen.

When you have locked the Installer Menu you will be asked to enter a password to unlock the Installer Menu options. Unlocked the Installer Menu options will be visible to allow alteration.

- **Multiple Systems:** Have access to multiple systems saved in the App.

In the menu option [in the App] 'Systems' you are able to store up to 5 separate Aquatek systems that you have connected with at any stage.

To **Add** a system, open the menu in the App and select 'Systems'. When the next screen opens you will see at the top of the screen there are 3 options; 'Add System', 'Remove System' on the left and on the right, there is 'Set System'.

Select 'Add System' and a QR scanning window will appear and simply scan the QR code [or manually type in the QR code utilising the keyboard] of the controller that you wish to save.

To **Set** a system, you can enter into the system by swiping left or right to display the intended system and then press the 'Set System' button. A yellow star will then appear, indicating that you now have access to the system. Open the App menu and select home to show the now active system.

To **Remove** a system, swipe left or right to highlight the system and press the 'Remove System' button then press OK on the prompt screen that will be displayed. The system doesn't need to have been 'Set' to be removed, just displayed on the screen when 'Remove System' is selected.





## APP FEATURES (CONTINUED)

- **Appliance Status:** Manipulate the appliances within the Appliance Status window on the App home page. You can manipulate where the appliances are displayed within the 'Appliance Status' window. If there is an appliance that is utilised more than others [and is displayed off the phone screen], it can be moved within the 'Appliance Status' window to make it more accessible. To do this you will need to have the App home page displayed.

In the 'Appliance Status' window, on the right hand side, you will see the = symbol. If you press this it will change to a tick symbol. You can now move the appliance boxes within the window by pressing and holding your finger on the wording [ie Gas Heater] of the appliance box, now slide your finger left or right to the position in the window you would like the appliance box to be positioned, then lift your finger off the phone screen. You can swipe left and right through the appliances within the window normally, just don't touch the wording of the appliance box as you do so, as it will then move the appliance box within the 'Appliance Status' window.

Once you are happy with where the appliance boxes are located within the 'Appliance Status' window, press the tick symbol again and it will revert back to the = symbol. The appliance box locations within the 'Appliance Status' window are now set and won't move if you swipe left within the 'Appliance Status' window.

- **Software Update:** Notification of a software update.

When you open the App on your phone, the system will automatically let you know if a new Software update is available by displaying a notice box at the top of the home page.

The notice box will look like this



If you press GO then the system will begin the process of updating the firmware of the controller.

Another box will appear on the App screen letting you know that the update is in progress, not to turn the controller off, and what percentage of the update has been completed. It will then let you know when the update has been completed and that the controller is restarting, or it will let you know if the update has failed.

If you press HIDE then the notification box will disappear until you either open the App again or go into the App menu and update the controller through the Device Menu, then Device Information.

After the update has been completed you may notice some additional features or functions through the App depending on whether it was relevant to your system or what was involved in the update.

**Note:** If the update Fails to download, it would be best to try and download the new Firmware at another time [ie later in the evening or earlier in morning] when less traffic is utilising the Wifi networks.

- **Winter Mode:** Winterising the solar heating.

With this option you can ensure that the system won't be heating the pool over Winter when it isn't required, but will still flush treated water through the System and prolong solar pump bearing and mechanical seal life. The flush will occur once a week.

To turn this feature on in the App, open the menu from the home page, and select the temperature option. Once the Temperature screen opens, you will see a slide button for Winter Mode. Tap or slide the button, it will change from red to green and Winter Mode is now active.



## APP FEATURES (CONTINUED)

- **Solar Priority:** Maximising the efficiency of the solar heating on the system.

The Aquatek system is designed to heat your pool or spa in the quickest means possible. If a heat pump or gas heater is installed, the system will utilise these heat sources first [or in conjunction with Solar Heating depending on your setup] to get the system temperature to the desired Pool or Spa temperature, and will ignore what your roof temperature is until the desired Pool/Spa temperature is reached. The Aquatek will then utilise the solar heating only to increase the pool or spa temperature to the Solar temperature.

By utilising Solar Priority, the system can be made to run more efficiently and more cost effectively. By turning Solar Priority on and setting a minimum roof temperature, the Aquatek will only utilise the heat pump or gas heater when the roof temperature is below what the minimum roof temperature is set to.

For example; Solar Priority is turned On and the Minimum roof temp is set to 40°C. If the roof temperature is below 40°C, the Aquatek will run the heat pump or gas heater. If the roof temperature is above 40°C, the Aquatek will only allow heating to occur via solar heating, thereby saving the cost of running the electric heat pump [electricity] or the gas heater [gas] when good solar gain is available.

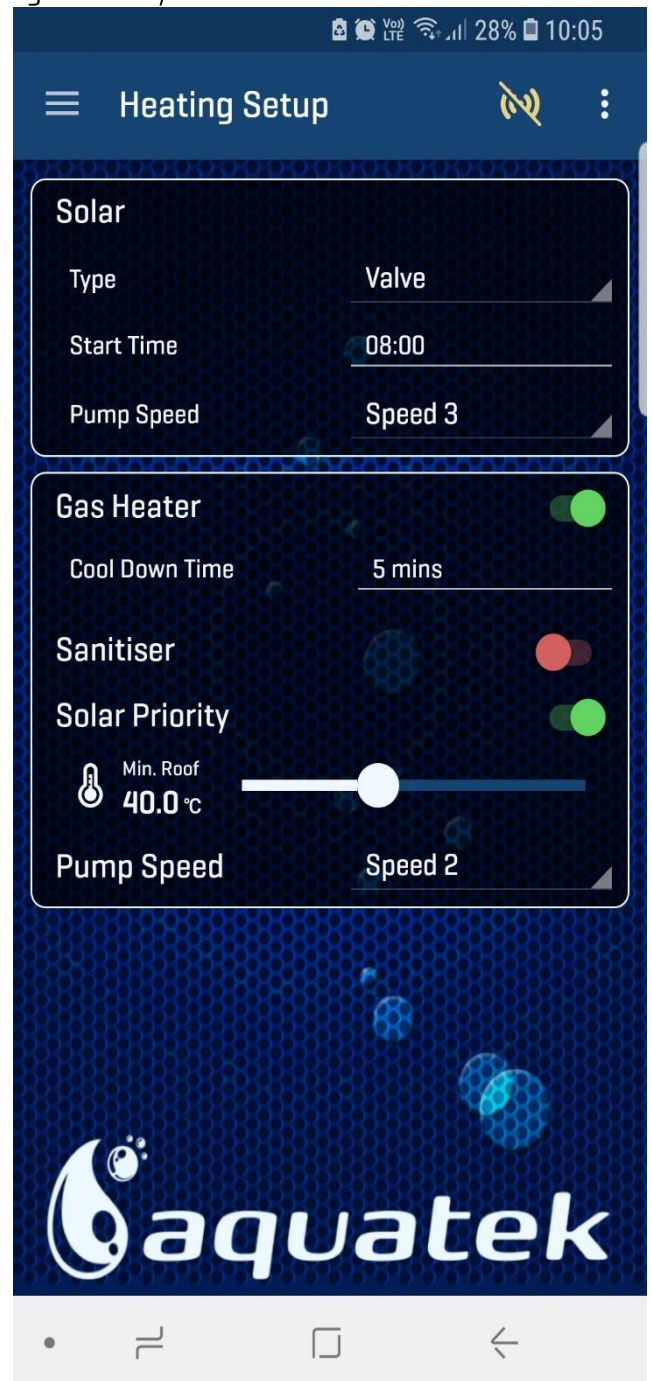
To turn this feature on, open the menu from the home page of the App and select Heating Setup. In the box labelled as either Heat Pump or Gas Heater you will see the wording **Solar Priority** with a slide button next to it. Tap or slide the button [button will turn from red to green] and a drop down option will appear and allow you to [tap or slide to adjust and] set the minimum roof temperature that you would like the solar heating to take over at.

*Note: The minimum roof temperature can be adjusted to anywhere between 20°C and 70°C.*

- **Sanitisation:** Option to utilise a Dosing system during Heating but outside of Filtration Times. Normally, sanitisation via dosing will occur only during the set filtration times. However, the filtration pump may continue to run for extended periods outside of the filtration times due to the pool being heated via either a gas heater, electric heat pump, or solar heating. Utilising this option will allow the continuation of dosing during these extended heating times.

To turn this feature on, open the menu from the home page of the App and select Heating Setup. In the box labelled as either Heat Pump or Gas Heater you will see the wording **Sanitiser** with a slide button next to it. Tap or slide the button [button will turn from red to green] and the option is activated.

*Note: This option is only a benefit for those systems that have automated dosing systems installed instead of Chlorinators. The Dosing system will still need to be plugged into either the Master Controller or an Expansion Unit and the output set as a Sanitiser. The Doser will also need to be set to be either Manually On or have its filtration time set to run 24hrs, the same as a Chlorinator.*





## APP FEATURES (CONTINUED)

- **Diagnostics:** Checking the Wifi signal strength that the Aquatek is receiving.

Once the controller is connected to the Wi-Fi network, you will be able to check the signal strength that the Aquatek is receiving. This can help determine if you require a Wi-Fi extender to ensure good quick connection.

On an Android phone this is located on the home screen. Simply click on the 3 vertical dots located in the top right-hand corner of the app screen then select Diagnostics. On an iPhone, this feature is located in the menu option 'Device', then click on 'Device Information' then 'Diagnostics'.

**Note:** The closer the number is to 30dBm the better the signal strength is. If your signal strength is above 60dBm, the weaker the signal is.



- **Manual Pump Control:** Control the speed of a Multi Speed pump through the Control Function.

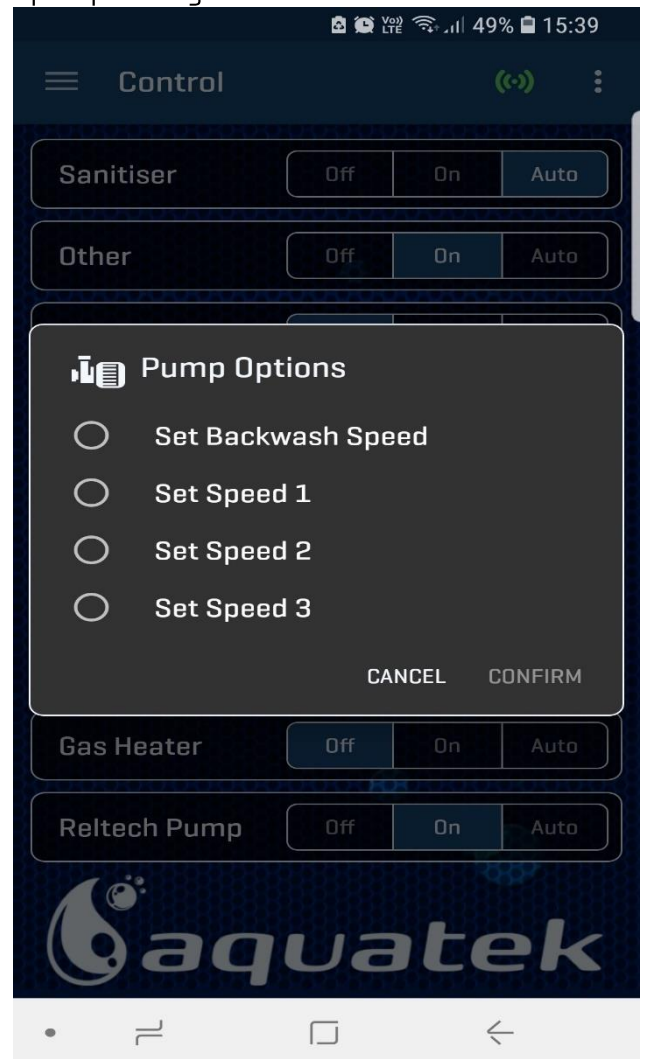
With most of the set appliances, you can use the 'Control' feature in the App menu to manually switch a Variable Speed pump on. In the case of a variable speed pump, you will have the option of designating a speed at which the pump will come on at.

**Note:** If you have a single speed pump installed, you will only have the option to have the pump either; On, Off or in Auto.

To utilise this feature, open the menu from the home page of the App and select Control. Once the Control menu option is open, one of the appliances is named as a Pump. When you press the option of ON, another window will open that will look something like this;

Once you have selected the speed you would like the pump to run at, you will be asked to either Confirm the speed setting or Cancel. The pump will either come on at the selected speed or the Manual On selection will be cancelled and you will be returned to the Control window.

**Note:** The pump will continue to run at the selected speed until the Pump is either turned OFF or put back into AUTO through the Control menu option.



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## APP FEATURES (CONTINUED)

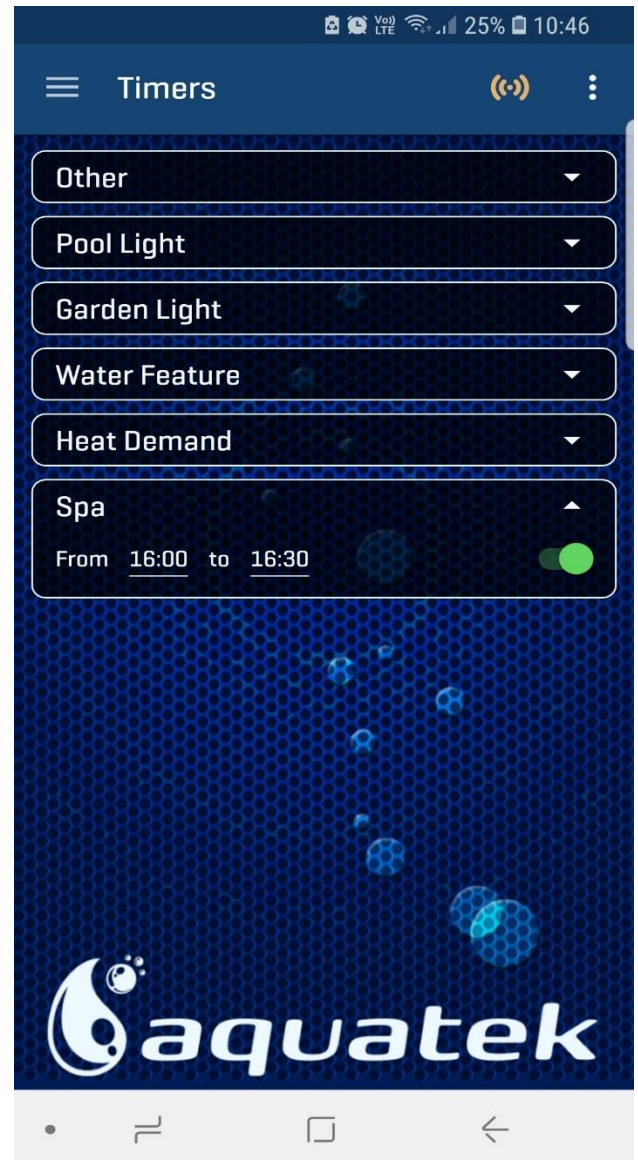
- **Spa Timer:** Spa system activated everyday based on a timer.

With this option you are able to set a timer that will switch the system out of Pool Mode and into Spa Mode at a specified time every day. This option can be used to ensure that the spa will be activated and heated by a certain time every day (ie by the time you get home from work or sporting activities, etc) or the spa is activated every day to ensure that a certain level of filtration and chlorination occurs every day.

To turn this feature on, open the menu from the home page of the App and select Timers. You will find an option in the Timer window that is labelled as SPA. When you tap the SPA option, the box will drop down to show and allow alteration of a Start and Finish time. Tap on the Start time to adjust the timer, select OK when correct time is displayed. Repeat for the Finish time. Once the start and finish times are selected, tap or slide the button to turn the Timer on [green] of off [red] to suit your preference.

*Note: If you are using this option to ensure the Spa is heated at a set point every day, you will need to make sure that in Control the Heater is in Auto but in Timers under Heat Demand that the timer is turned off. Once the controller goes into Spa Mode, it will turn the heater on.*

*Note: If you are using this option to ensure that the Spa is activated for a period of filtration and chlorination every day, then in Control ensure that the Heater is Off. At any other time you would like to have a Spa, you will need to ensure that you turn the Heater in Control to Auto, then the heater will turn on to heat the Spa.*



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