

AQUATEK

Instruction Manual



DESCRIPTION

The AQUATEK Control system manages your pool, spa and heating requirements from your smart phone via the home WIFI. It will control single and many multi speed pumps, sanitiser, heaters, solar heating, lights, water features, pool/spa valve actuators and all spa equipment requirements.

The AQUATEK Control system is modular and can accommodate most pool control requirements, big or small.

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IMPORTANT WARNINGS AND SAFETY INFORMATION



This manual contains important information about the installation, operation, and safe use of this product. This information should be given to the owner and/or operator of the Aquatek system. When installing and using the Aquatek system, basic safety precautions should always be followed. Failure to follow safety warnings and instructions in this manual can result in serious injury and/or damage to your equipment. Read and follow all warning notices and instructions which are included in this manual.

GENERAL WARNINGS

- Read the instructions before installing and using the Aquatek system.
- Failure to follow these instructions and comply with all applicable codes may cause serious bodily injury and/or property damage and will void the warranty.
- Installers/operators must follow manufacturer's instructions and keep in compliance with national or local standards for installation. Under no circumstances will the manufacturer be held responsible for any outcome incurred by failure to comply with applicable standards or local regulations.
- IEC: This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or a lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of this product by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with this product.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- The units power must be supplied through a residual current device (RCD) with a rated residual operating current ≤ 30 mA.
- Always comply with national and local electrical codes and standards.
- The Aquatek controller is not submersible.
- Never open the Aquatek controller.
- This product contains electrical equipment. Dispose of the product in accordance with local regulations.
- Use only genuine replacement parts supplied by the manufacturer for service and repair.

DISCLAIMER

Information in this manual is intended to provide general information on a particular subject[s] in good faith and is not an exhaustive treatment of such subject[s].

Its use is beyond the control of the author, contributor, publishers, and distributors and should not be relied upon without consulting your local Professional for comprehensive advice. This manual includes subject[s] that should only be performed by or under the direction and advice of your local Professional and under no circumstances should the manual be used as a substitute for such professionals.

No representations or warranties are made that the content, advice, and recommendations in this manual are current, free from errors or omissions, or appropriate for the user's circumstances or abilities. No liability is accepted for any loss suffered as a result of any user's reliance on such content. All information in this document is subject to change at any time without notice.

PACKAGING CONTENTS

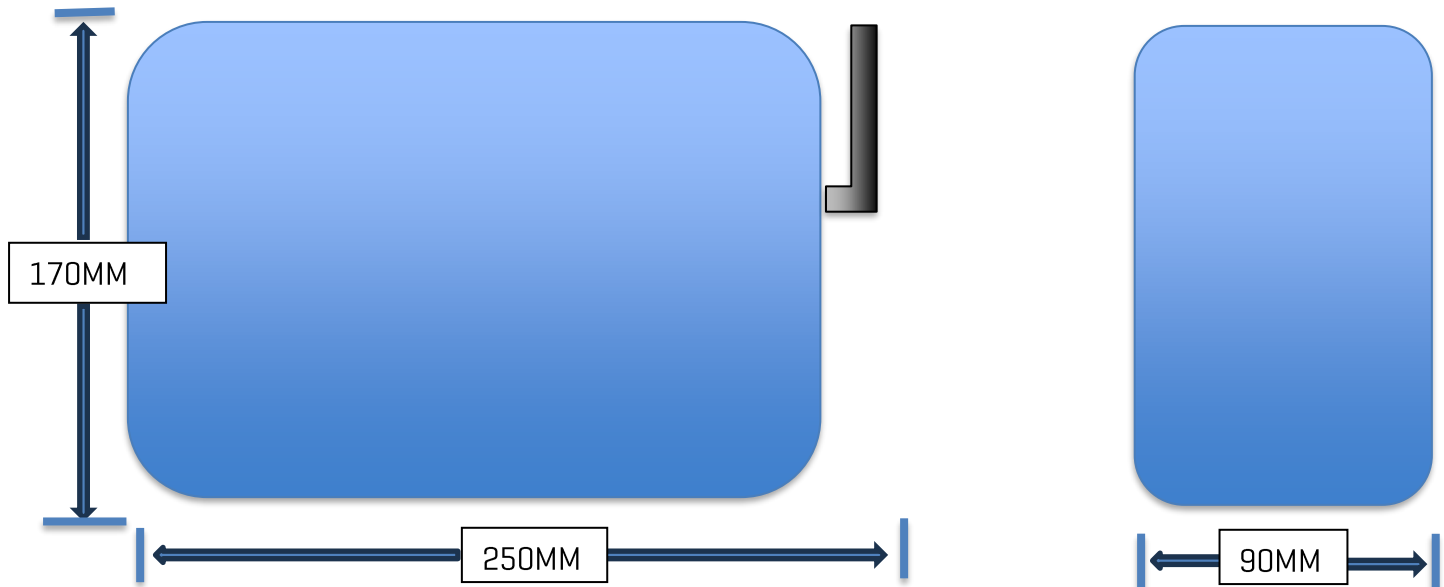
The following items are included in the packaging of the Aquatek system. Please contact your authorised dealer if any items are damaged or missing.

- Aquatek Controller
- Controller Antennae
- Mounting Plate
- Mounting Plate Wall plug & Screw kit
- 1 X Pool Sensor
- 1X Heater Interlock cable [4M]
- Installation and Setup Guide

AQUATEK SPARE PARTS

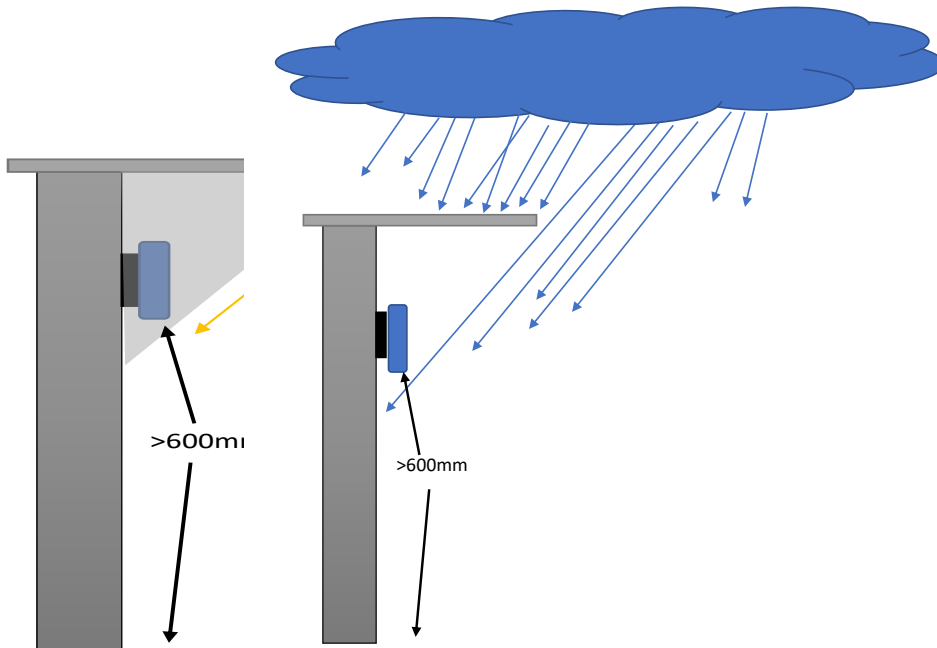
ITEM	Part Number
Controller Antennae	3011007
Mounting Plate	3112003
Mounting Plate Wall plug & Screw kit	3121019
Pool Sensor	1131020
Heater Interlock cable [4M]	3051087
Roof Sensor [only required if Solar Heating is utilised]	1131015

PRODUCT DIMENSIONS



INSTALLATION INSTRUCTIONS

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



Find a suitable location to mount the control box.

The controller should be no closer than 3 metres from the water's edge, at a minimum 600mm above ground level. The power cable is 1.8m long and should be plugged directly into a general power outlet, **not into an extension lead**.

Fix the mounting bracket to a solid structure with the screw and wall plug kit provided.

CONTROLLER MOUNTING



Match the screwheads on the back of the controller up to the holes towards the top of the mounting plate, push the controller downwards gently to lock it into place. Adjust the screws on the back of unit to ensure a snug fit.

To remove the unit, push the controller up and gently pull away from the mounting bracket.

Mount the pump and Sanitiser according to the manufacturer's instructions.

<p>HEATER CONTROL</p>	<p>The controller heater interlock connection is for extra low-voltage [MAX 24V at 1Amp] switching only.</p> <p>The heater interlock cable connects to the green socket marked Heater Interlock which switches on [closes] the voltage free NO/C relay contacts when the heater is to be turned on. The heater's internal control will be interrupted, to turn off heating. Set the heaters internal temperature limit to its maximum [40°C].</p> <p>The heater end of the interlock cable will connect inside the heater to a designated connection point. Check with the heater manufacturer for correct interlocking procedure.</p> <p><i>Note: If the heater's flow or pressure switch circuit is 240Vac, an external relay [KIT10] which can be purchased separately, is to be connected by a licensed electrician.</i></p> <p>If the heat pump/gas heater is equipped with a "Demand Heat" function, the heater interlock cable can be connected into the Master Controllers input, labelled as "Pump Call" [see section 6.7 - Pump Call for correct procedure]. The controller will over-ride the Filter pump or the Heating Pump Ind [depending on which appliance is selected] when water flow is called for by the heat pump. The Heat Pump monitors the temperature within its own defined run times.</p> <p>Connect the heater cable from the controller output to the heater's internal connection point. Check with the heater manufacturer for its correct interlocking procedure.</p> <p><i>Note: If the heater's Heat Demand circuit is 240Vac, an external relay [KIT11] can be purchased separately and is to be fitted by a licensed electrician.</i></p>
<p>PUMP CALL</p>	<p>The PUMP CALL option can be used for a Heat Pump telling the Aquatek system to turn the pump on for heating purposes [see above].</p> <p>Alternatively, a voltage free switch [ie; Spa Side Switch] can be connected to the Pump Call plug at the base of the Master Controller to turn on selected Appliances when the switch is turned On.</p> <p><i>Note: This is a Voltage Free connection point only.</i></p>
<p>VALVES</p>	<p>The AQUATEK has 4 valve actuator sockets for the controlling of Solar heating, Water Features, Pool/Spa water flow, In Floor Cleaning, Feature from Solar (eg Water Slide), Heating (eg Gas or Heat Pump), or Other.</p> <p><i>Note: If wiring your own supplied valve, ensure the wires are as follows: [left to right] White, Red then Black. The Red and White wires are for direction control and Black is common. Ensure the switch on the valve actuator is switched to an ON position.</i></p> <p>Refer the valve instructions for mounting requirements, cam adjustments etc.</p> <p>Maximum power for the VALVE output is 24VA.</p>
<p>PUMP CONTROL</p>	<p>This connection point gives you the ability to connect a Variable Speed pump to the Aquatek system and be able to control which speed it runs at depending upon functionality.</p> <p>Refer to the Pump Connection pages below or Section 6.2 – Pump, for a complete listing of which brands and models of Variable speed pumps are able to be directly controlled.</p>
<p>POWER OUTPUT CONNECTIONS</p>	<p>The 2 X 240VAC Output Sockets are for equipment to be controlled via the AQUATEK Master controller. Each socket can be assigned via the menu and/or app.</p> <p>The Maximum combined load for both sockets on the master controller is 9.9 AMPS at 2370W.</p>

SENSORS

POOL SENSOR	<p>The pool sensor [Part No. TS02P] must be fitted into the heating circuit, upstream of the heater, preferably on the suction side of the pump, in a position out of direct sunlight.</p> <p>It is recommended that a 14 or 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 PDO1 grinding drill or a hole can be drilled, with the drill-bit used spinning in a counterclockwise direction to minimize the chance of shattering pipe. Insert the grommet into the pipe and gently push in the sensor barb.</p> <p>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 cable.</p> <p>The blue sensor plug is to be fitted to either Sensor 1 or Sensor 2 ports located beneath the controller.</p>
ROOF SENSOR	<p>If a roof sensor [Part No. TS01P, purchased separately] is installed, it must be fitted into a small piece of collector material away from the main collector but on the same aspect, preferably no more than 50cm from the roof gutter [for ease of sensor replacement].</p> <p>If required, the roof sensor can be installed on a different roof, to the solar collector. So long as the second roof alignment to the sun is similar to, or the same as that of the solar collector roof.</p> <p>For encapsulated collector panels use the manufacturer's instructions for roof sensor placement. The red sensor plug is to be fitted to either Sensor Port 1 or 2 located beneath the controller.</p>
SENSOR NOTES:	<p>All excess cable length must be removed; cable coils 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.</p> <p>Note: It is recommended that any, cable joins should be soldered. Heat shrink is to be used over soldered joints to eliminate moisture ingress.</p>

EXPANSION UNITS

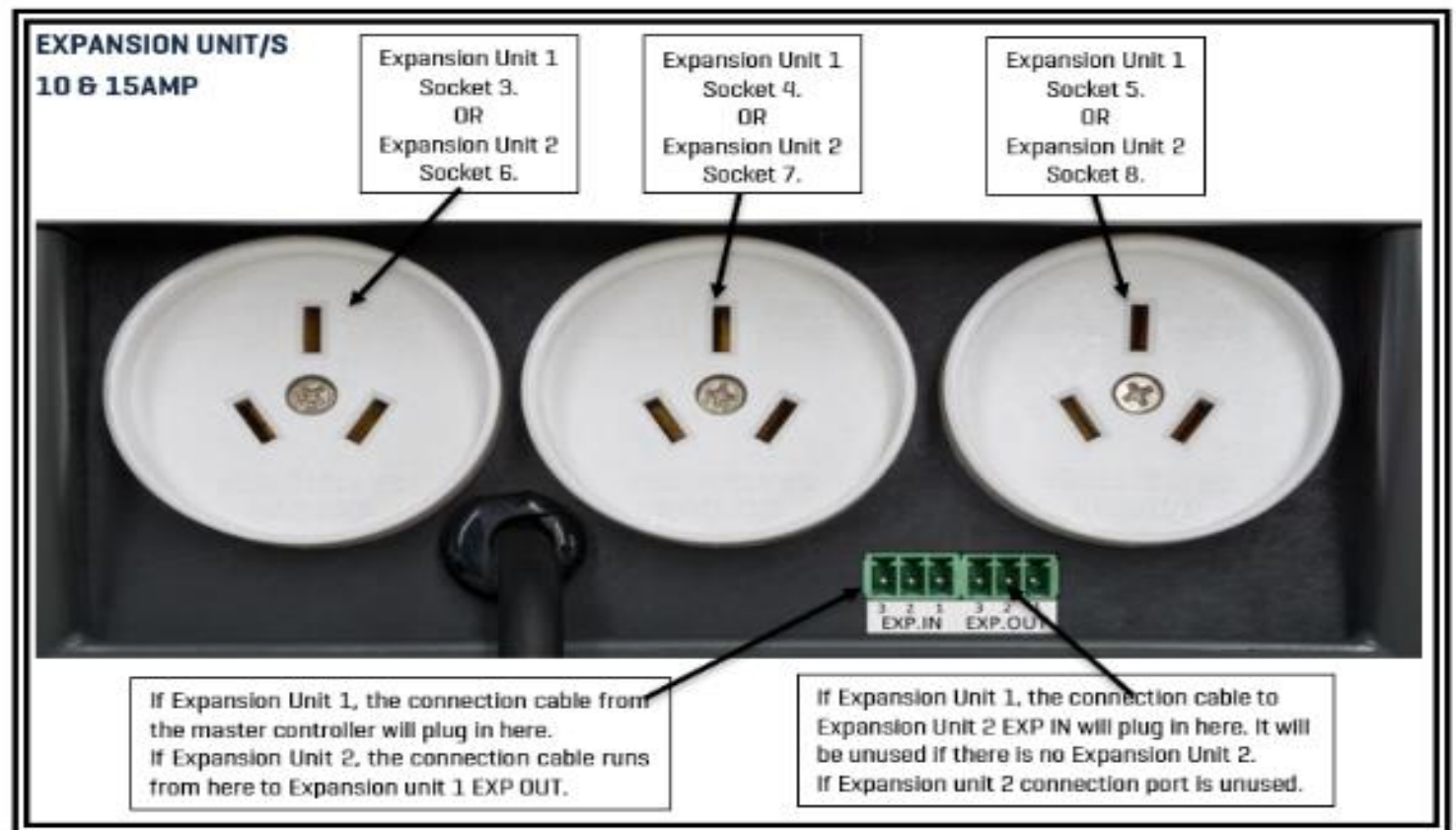
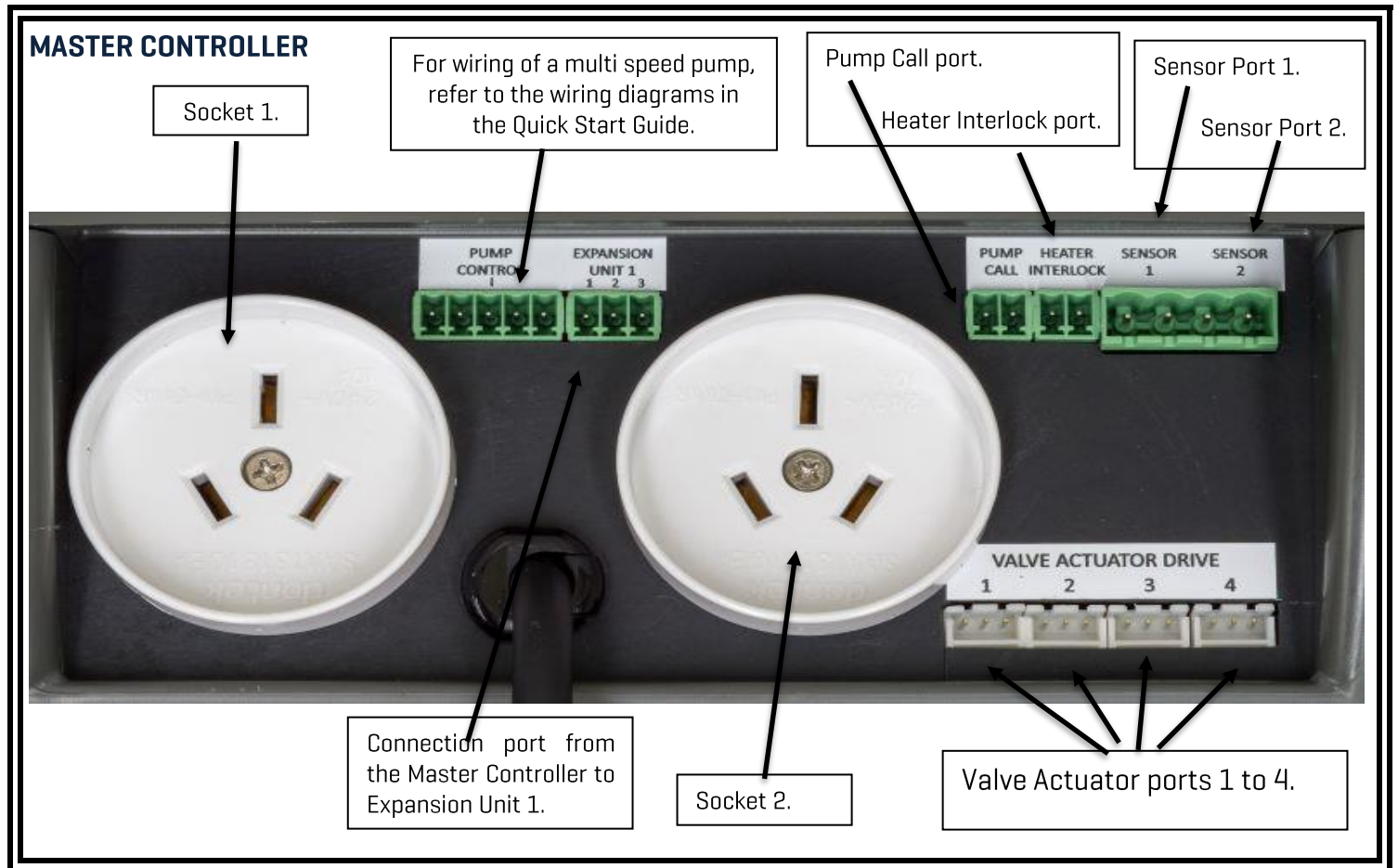
The AQUATEK has the capacity to have an additional 2 expansion units connected to it. Each Expansion Unit has an additional 2 or 3, 240VAC Output sockets that are controlled via the AQUATEK controller. Up to an additional 6 power sockets can be utilised and controlled by the AQUATEK master controller.

The Expansion Units are **Input** rated at either 10Amps or 15Amps. All power outputs on the Expansion Units [10A & 15A] are rated the same, all Output sockets are 10Amps. The only exception is for the 2 output 15A Fused Exp Unit which has a single 15A output and a single 10A output [see page 8].

EXPANSION UNIT MOUNTING	<p>Ideally, as with all pool equipment, the Expansion Unit/s should be installed out of direct weather.</p> <p>Find a suitable location to mount the Expansion Unit/s, no closer than 3 metres from the water's edge, at a minimum 600mm above ground.</p> <p>The power cable is 1.8m long and should be plugged directly into a general power outlet, not into an extension lead.</p> <p>Mount as per main controller [see page 3].</p>
POWER OUTPUT CONNECTIONS	<p>The 240VAC Output Sockets are for equipment to be controlled via the AQUATEK controller. Each socket can be assigned via the menu and/or app.</p> <p>The maximum combined load for all power outputs [2 or 3 outputs] of the module is either 9.9 Amps / 2370 Watts, or 14.9 Amps / 3570 Watts. Please refer to the unit's rating label.</p> <p>For Example;</p> <p>Socket 3 – Jet Pump of 7.0 Amps Socket 4 – Blower of 6.5 Amps Socket 5 – Spa Light of 1 Amp.</p> <p>If all 3 sockets are turned on, it would be a total Amp load of 14.5 Amps [7.0 + 6.5 + 1.0 = 14.5]. This would overload a 10A Expansion Unit and could cause it to fail prematurely.</p> <p>This would also mean that the Expansion Unit would not be covered under warranty.</p> <p>A 15A Expansion Unit would be a better option or a second 10A Expansion unit to spread the load across.</p> <p><i>The 15Amp rated expansion unit must be plugged into a 15Amp rated GPO.</i></p>

INSTALLATION DIAGRAMS

The AQUATEK'S Master Controller and an Expansion Units.

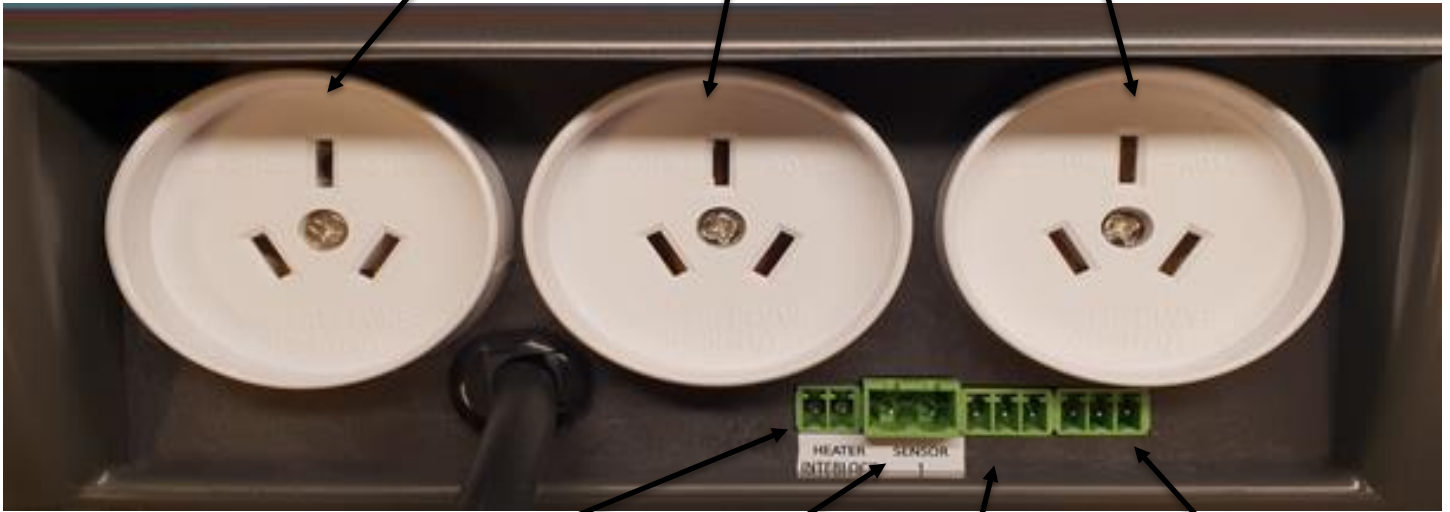


**EXPANSION PLUS UNIT
10 & 15AMP**

Expansion Unit 1
Socket 3.
OR
Expansion Unit 2
Socket 6.

Expansion Unit 1
Socket 4.
OR
Expansion Unit 2
Socket 7.

Expansion Unit 1
Socket 5.
OR
Expansion Unit 2
Socket 8.



VF Contact 2
2nd Heater Interlock Port.

Sensor Port.
Can be set as either
Pool Sensor or as
Water Sensor.

If Expansion Unit 1, the
connection cable from
the master controller
will plug in here.
If Expansion Unit 2, the
connection cable runs
from here to Expansion
unit 1 EXP OUT.

If Expansion Unit 1, the
connection cable to
Expansion Unit 2 EXP IN
will plug in here. It will
be unused if there is no
Expansion Unit 2.
If Expansion unit 2
connection port is unused.

**EXPANSION UNIT
15AMP ONLY**

Expansion Unit 1 Socket 3
OR
Expansion Unit 2 Socket 6.

Expansion Unit 1 Socket 4
OR
Expansion Unit 2 Socket 7.

Re-settable

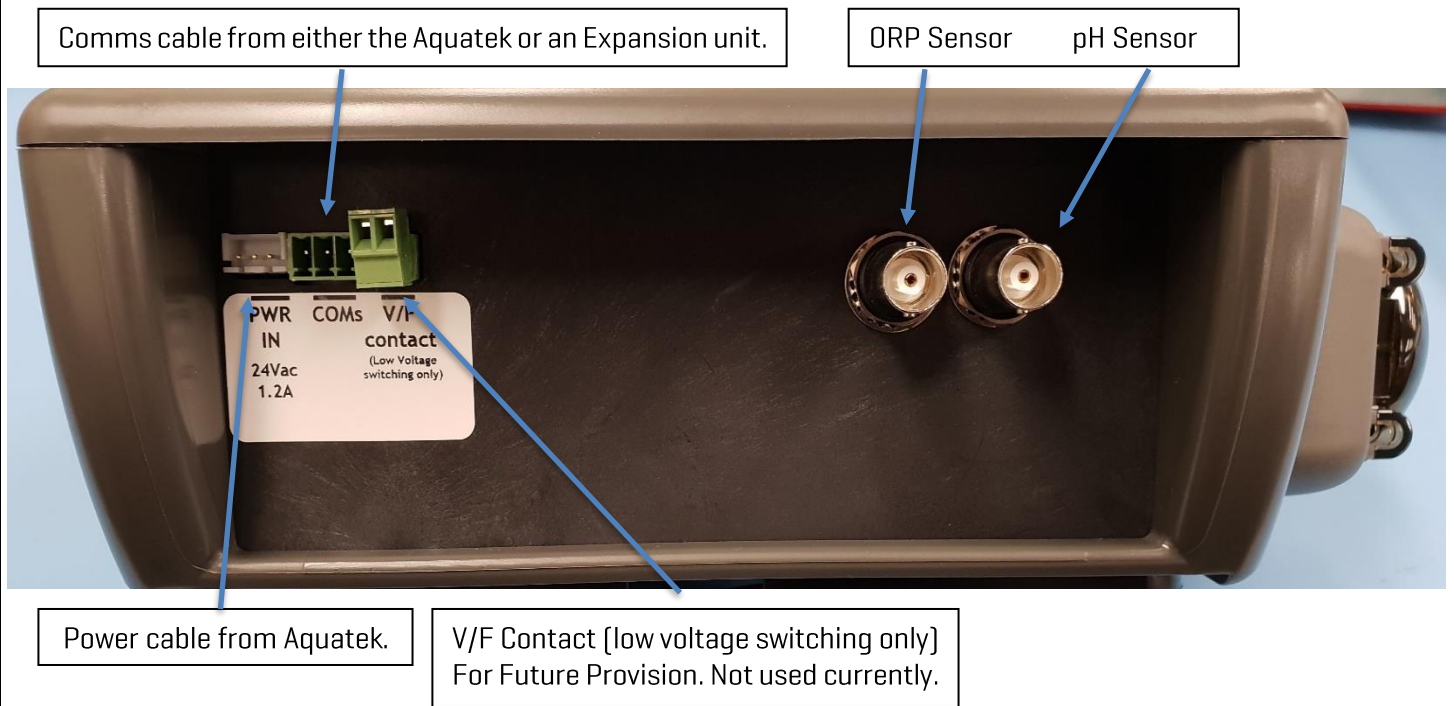


If Expansion Unit 1, the connection cable from
the master controller will plug in here.
If Expansion Unit 2, the connection cable runs
from here to Expansion unit 1 EXP OUT.

If Expansion Unit 1, the connection cable to
Expansion Unit 2 EXP IN will plug in here. It will
be unused if there is no Expansion Unit 2.
If Expansion unit 2 connection port is unused.

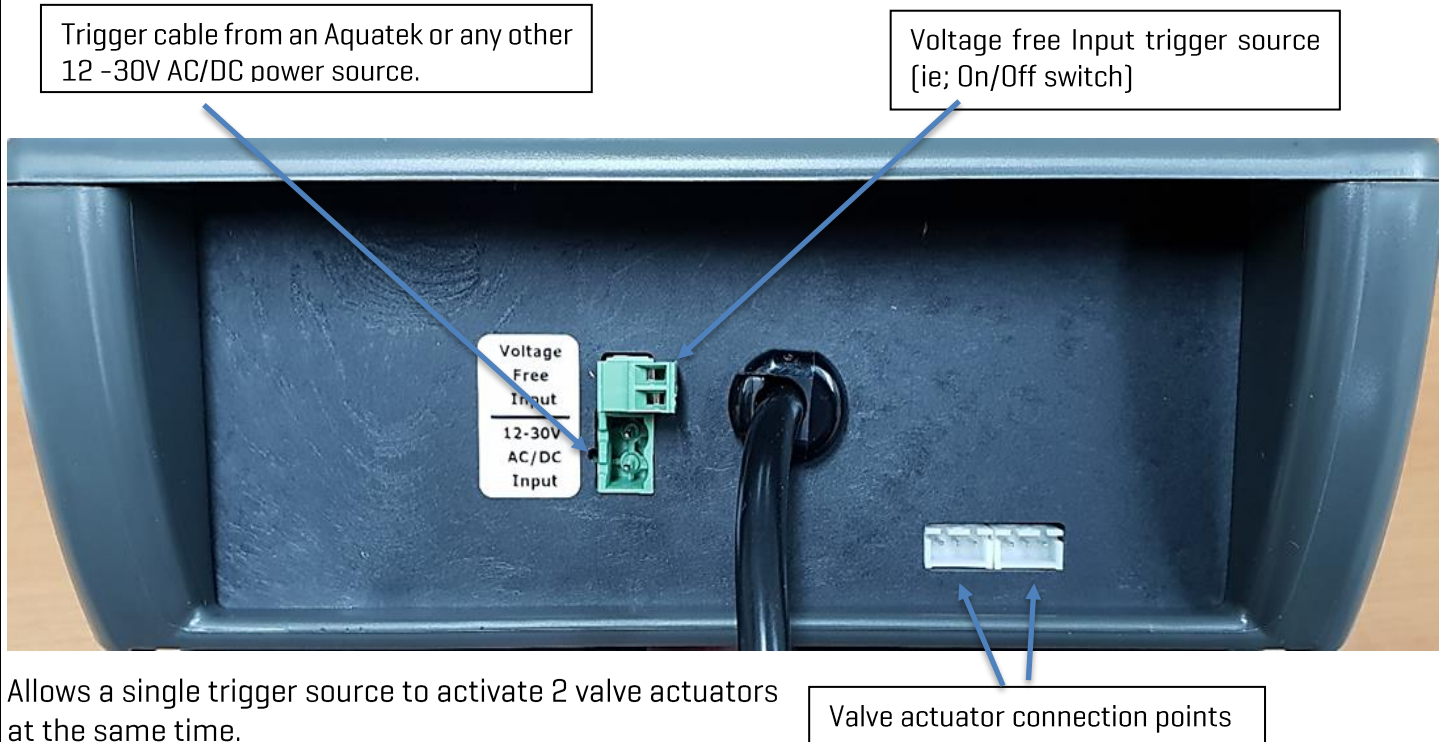
EXPANSION UNIT

AQUACHEM



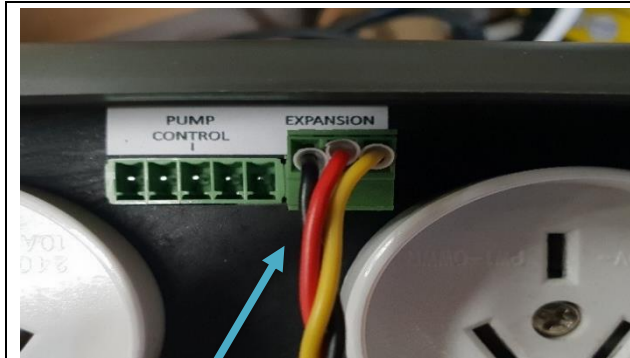
EXPANSION UNIT

POWERDRIVE



INSTALLATION CONTINUED

- Plug the communication cable from the Master Controller to the left-hand port of Expansion Unit 1 (if installed).

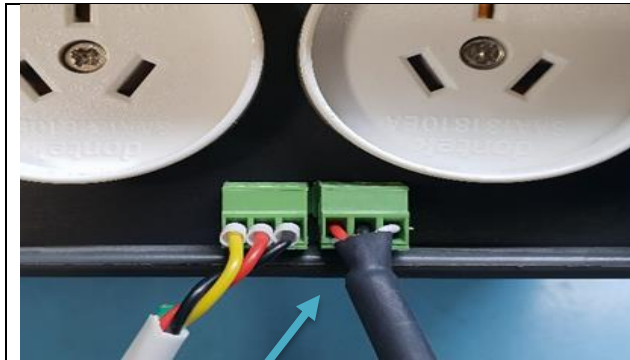


From Master Controller.....

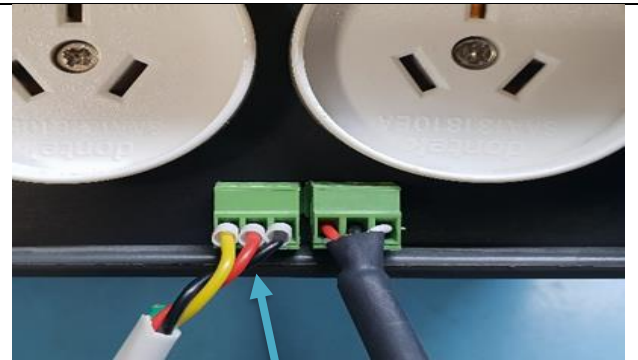


To left-hand port of Exp Unit 1.....,

- Plug the communication cable from the right-hand port of Expansion Unit 1 to the left-hand port of Expansion Unit 2 (if installed).



From right-hand port of Exp Unit 1.....



To left-hand port of Exp Unit 2.....

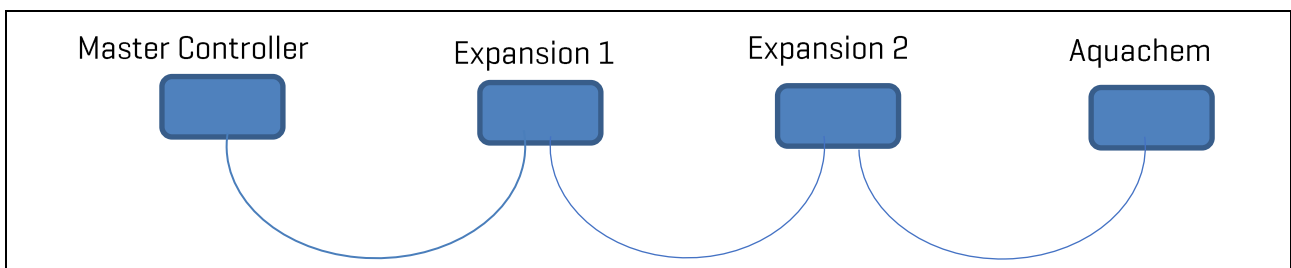
- Plug the communication cable from the right-hand port of Expansion Unit 2 to the Aquachem communication port (if installed).



From right-hand port of Exp Unit 2.....



To Aquachem comms port.....



OPERATING INSTRUCTIONS

LCD SCREEN

In Automatic [Pool] mode the LCD screen displays; the time of day, what time the current filtration cycle will finish/start at, if more than one filtration cycle is set, then the start time of the next filtration cycle is displayed, current pool and roof temperatures or any faults are displayed, current status of the pump [run/inactive], Heat Demand time [if active], and whether the WIFI is active or disabled.

In Spa mode the LCD screen will display; the time of day, SPA MODE on, pool temperature or sensor fault, Temperature – both current temperature and set temperature of the spa, pump status, and WIFI status.

LCD INDICATORS

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

CONTROLLER BUTTONS

AUTO	<p>Pressing the AUTO button will initiate the controller to run all connected Appliances in automatic mode, ie run to set timers.</p> <p>If the AUTO button is pressed while in the settings menu, the changed settings will be used but not saved. If there is a power failure the controller will retrieve the previously saved settings. On power-up the controller will start automatic pool operation.</p>
BACK	<p>Pressing the BACK button [while you are within a menu option] will allow you to go back to previous menu options.</p> <p>If the controller is scrolling through its status displays, pressing the Back button will take the display back to the previous status display.</p> <p>Press & hold the Back button to shortcut to the controller displaying its QR code.</p>
ENTER	<p>Pressing the ENTER button will turn on the LCD backlight or,</p> <p>Pressing the ENTER button will accept the currently displayed setting option.</p>
MENU	<p>After pressing the MENU button, a range of options can be selected from and changed. The selectable options in the MENU are as follows:</p> <ol style="list-style-type: none">1) FILTER TIMES2) TEMPERATURE3) CONTROL4) TIMERS5) LIGHTS6) INSTALLER MENU
UP & DOWN	<p>The UP & DOWN buttons allow you to scroll through different functions and or settings in the menus, as well as increasing or decreasing temperature settings.</p> <p>Note: When the Master controller is displaying its normal operations on the LCD screen, pressing the,</p> <p>Down Arrow button - will enable you to scroll through the displayed status operations quicker, instead of waiting for the controller to scroll through them in its allocated time.</p> <p>Up Arrow button – will enable you to hold the display of a status operation for a period of 60 secs The controller will then revert back to scrolling through the displayed operations.</p>

<p>SPA</p>	<p>The SPA button allows you to toggle between Pool and Spa modes. Pressing the SPA button begins the process of heating the spa to the spa temperature limit. The pool/spa valves will move to the spa and prime the pump if required. Heating will occur to the displayed set temperature.</p> <p>To return to automatic pool operations press the AUTO button or press the SPA button to return to automatic pool operations.</p>		
<p>PUMP</p>	<p>If at any time the PUMP button is pressed the pump is switched on and the following will be displayed:</p> <p>3 MINS BACKWASH ENDS IN xx:xx:xx</p> <p>This function is used for a system back wash, pool vacuuming, manually running the system for a set amount of time, running the filtration system after adding chemicals, etc. It can also be used to stop the pump from running [if maintenance is required] for a set amount of time.</p> <p>Use the Up/Down buttons to increase or decrease the amount of time that the pump will run, or not run. The countdown timer lets you know how much time is left until the manual function ends.</p> <p>The timer amounts after the 3 minute backwash are:</p> <table border="0" data-bbox="300 981 1513 1496"> <tr> <td style="vertical-align: top;"> <p>PUMP ON: 30 MINS, PUMP ON: 1HR, PUMP ON: 2HR, PUMP ON: 3HR, PUMP ON: 5HR, PUMP ON: 9HR, PUMP ON: 10HR, PUMP ON: 15HR, PUMP ON: 20HR, and PUMP ON: 24HR.</p> </td> <td style="vertical-align: top; padding-left: 20px;"> <p>The timer amounts to stop the pump are displayed as follows:</p> <p>HOURS OFF: 01HR, HOURS OFF: 02HR, HOURS OFF: 03HR, HOURS OFF: 05HR, HOURS OFF: 09HR, HOURS OFF: 10HR, HOURS OFF: 15HR, HOURS OFF: 20HR, and HOURS OFF: 24HR.</p> </td> </tr> </table> <p>At any time during the count down, if you press the ENTER button, the timer will reset to the selected time, and start again.</p> <p>During the count down, if you press the PUMP button again, the controller will return to automatic operation.</p>	<p>PUMP ON: 30 MINS, PUMP ON: 1HR, PUMP ON: 2HR, PUMP ON: 3HR, PUMP ON: 5HR, PUMP ON: 9HR, PUMP ON: 10HR, PUMP ON: 15HR, PUMP ON: 20HR, and PUMP ON: 24HR.</p>	<p>The timer amounts to stop the pump are displayed as follows:</p> <p>HOURS OFF: 01HR, HOURS OFF: 02HR, HOURS OFF: 03HR, HOURS OFF: 05HR, HOURS OFF: 09HR, HOURS OFF: 10HR, HOURS OFF: 15HR, HOURS OFF: 20HR, and HOURS OFF: 24HR.</p>
<p>PUMP ON: 30 MINS, PUMP ON: 1HR, PUMP ON: 2HR, PUMP ON: 3HR, PUMP ON: 5HR, PUMP ON: 9HR, PUMP ON: 10HR, PUMP ON: 15HR, PUMP ON: 20HR, and PUMP ON: 24HR.</p>	<p>The timer amounts to stop the pump are displayed as follows:</p> <p>HOURS OFF: 01HR, HOURS OFF: 02HR, HOURS OFF: 03HR, HOURS OFF: 05HR, HOURS OFF: 09HR, HOURS OFF: 10HR, HOURS OFF: 15HR, HOURS OFF: 20HR, and HOURS OFF: 24HR.</p>		

NOTE

It is advisable to go into Installer Setup first and enter all equipment that will be utilised/allocated in the Menu functions.

MAIN MENU

The menu system can be navigated using the ↑ or ↓ buttons. All selectable and changeable values will be displayed on the LCD screen. Press the MENU button [twice if required], scroll up or down to the menu option required and press the ENTER button to accept the currently displayed item.

All menu items are shown below:

- 1) FILTER TIMES
- 2) TEMPERATURE
- 3) CONTROL
- 4) TIMERS
- 5) LIGHTS
- 6) INSTALLER MENU

SANITISER

The Sanitiser must be set to operate 24hrs per day or manually On as the AQUATEK controller will control the number of hours per day the system will operate. Refer to the Sanitiser instructions for 24hr timer setup, dosing and mounting requirements.

You have the option to choose up to 4 different Filtration Times.

When you select the FILTER TIMES menu option, the screen will display:

FILTER ON
TIME 1 OFF

When you select ON and press ENTER the screen will display:

FILTER XX:XX
TIME 1 ON XX:XX

Adjust the start time and end time for the required filter cycle. The circulation pump will run between these times for filtration purposes.

Once you have set the first filter time, you will then be asked to select a pump speed for the first filter cycle.

Note: *This will only be displayed if you have installed a Multi Speed Pump through the Installer Setup [6.2]. You won't be asked for a pump speed if Single Speed pump was selected in the Installer Setup [6.2].*

This will be displayed as:

FILTER TIME 1
SPEED 1, [2,3, or 4 can be selected, depending on pump].

Once you have selected a speed for the first Filter Cycle, the option for a second filter cycle will be displayed:

FILTER ON
TIME 2 OFF

Set and adjust as with Filter Time 1 or if not required then set the timer to OFF.

Repeat the above steps for Filter Time 3 and 4.

Note: You can run different pump speeds during the separate filter times.

- Filter cycle 1 may run at speed 4, filter cycle at speed 2, filter cycle 3 at speed 1, and filter cycle 4 at speed 4.
- For example:

Filter Time 1: 8.00 – 9.00 at speed 4.

Filter Time 2: 9.00 – 15.00 at speed 2.

Filter Time 3: 15.00 – 16.00 at speed 4.

1. FILTER TIMES

2. TEMPERATURE

When you enter Temperature Settings, the first setting that will be displayed is:

POOL
TEMPERATURE 27°C

**Range is OFF, 20°C to 40°C in .5°C increments. Default is 27°C.*

***Range of 10° to 20° in .5c increments can be set if Cooling and Hydrotherapy Modes are engaged. See 6.4 Heating on page 30.*

This temperature is the minimum pool temperature that you would like the **Heater** to heat the pool to if a heater is utilised.

The temperature limit can be increased or decreased with the ↑ or ↓ buttons to a temperature of your choice.

Once you have selected a Pool Temperature, press Enter and the temperature will be set. The controller will then display:

SPA
TEMPERATURE 37°C.

Range is OFF, 20°C to 40°C in .5°C increments. Default is 37°C.

This is the temperature that you would like the SPA to be at when in use.

The temperature limit can be increased or decreased with the ↑ or ↓ buttons to a temperature of your choice.

Once you have selected a Pool Temperature, press Enter and the temperature will be set. The controller will then display:

SOLAR
TEMPERATURE 30°C.

Range is OFF, 20°C to 40°C in .5°C increments. Default is 30°C.

This is the temperature you would like the solar to heat the pool to, if it is utilised.

The temperature limit can be increased or decreased with the ↑ or ↓ buttons to a temperature of your choice. Once you have selected a Pool Temperature, press Enter and the temperature will be set.

The controller will then display:

RUN UNTIL ON
HEATED.....OFF

Use the ↑ or ↓ buttons to select which option you would like, and press Enter.

If you select ON, the system will utilise the Heat Pump or Gas Heater to continue to heat the pool until the temperature limit is reached while ignoring the set Heat Demand times set in Timers. Once the Pool Temperature limit is reached the controller will automatically return to the scheduled settings.

Note: *This may mean that the filtration pump and heater may be running for continuous extended periods of time, potentially longer than 24hrs straight.*

Note: *If the Temperature Setting [ie Limit] on any of the heat sources [ie; Pool, Spa, & Solar Temperatures] is set into the OFF position, then that heating source is turned Off and will not be activated to heat the body of water that it is allocated to. For example, If the Solar Temperature is set to Off [instead of a selected temperature of say 30 degrees], then no solar heating of the pool will occur.*

If you have an Expansion Plus Unit connected, you will then also have the ability to set a temperature limit for the second installed heater.

Pool 2 temperature and also Spa 2 temperature, and whether you would like to activate the second heater to Run Until Heated.

The controller will then return you to the Main Menu.

3. CONTROL

In this menu setting, you will be able to manually turn on any power socket output, valve actuator output or heater output [VF1 or VF2] that has been allocated an appliance. Power Socket outputs 1 through to 8, Valve Actuator outputs 1 through to 4, and VF1 or VF2 heating sources if allocated.

Press Enter to open the setting and the controller will display:

S1: XXXXXXXXX
AUTO

Use the ↑ or ↓ buttons to move between the allocated power socket outputs, valve actuator outputs, and the VF contacts.

If a Socket, Valve, or VF contact hasn't been allocated as an appliance, then it won't be shown.

Press the Enter button to toggle between; AUTO, OFF, & ON.

Press the Auto Button on the front of the controller to return all appliances to normal automatic operation.

Please remember that you will also need to turn the appliance back to Auto, otherwise it will continue to run.

Please note the following;

- *If a socket has been set to **Always On**, then you won't be able to turn it on manually.*
- *If a socket has been set as a **Cleaning Pump** and if you switch it to be **Manually On**, the Aquatek system will also turn the Filtration Pump On automatically to ensure that there is water flow for the Cleaning Pump. The Aquatek system will always treat a Cleaning Pump as being plumbed as a Boost Pump scenario.*

Note: If you have a Cleaning Pump that is on a separate line to the Filtration Line and don't want the Filtration Pump to come on while the Cleaning Pump is running, it is recommended to allocate the output as Other and re-name it as Cleaning Pump. You can then set a normal Timer for it to run without the Filtration Pump being turned on as well.

- *If a socket has been set as a **Water Feature** pump and if you switch it to be **Manually On**, the Aquatek system will also turn the Filtration Pump On automatically to ensure that there is water flow for the Water Feature pump. The Aquatek system will always treat a Water Feature Pump as being plumbed as a Boost Pump scenario unless otherwise specified.*
- *If a socket has been set to **Solar**, you will only have the options of Auto or Off.*
- *If a socket has been set to **Heating Pump [Ind]**, you won't be able to turn it on manually. It will follow the heater assigned to that pump.*
- *If a valve allocated to **Pool/Spa**, will not be able to be turned using this menu option.*
- *If a valve is allocated as an **Infloor Valve** and if you switch it to be **Manually On**, the Aquatek system will also turn the Filtration Pump On automatically to ensure that there is water flow for the Infloor Valve. The Aquatek system will always treat an Infloor Valve as being plumbed in a Boosted scenario*
- *If a valve is allocated to **Solar**, you will only have the options of Auto or Off.*
- *If a valve is allocated to **Water Feature** and if you switch it to be **Manually On**, the Aquatek system will also turn the Filtration Pump On automatically to ensure that there is water flow for the Water Feature. The Aquatek system will always treat a Water Feature Valve as being plumbed as a Boosted scenario unless otherwise specified.*

4. TIMERS

When you enter the TIMER menu option, you will be able to set, a number of the allocated appliances to turn On and Off via a set timer.

The appliance has to be allocated, to a socket or valve to be allowed a Timer setting. Each appliance has the choice of either; Off, 1 time, or 2 timer allocations.

****Note: Time periods for different appliances can overlap each other.****

The first available appliance to be set on a timer will be displayed as:

Socket #X
XXXXXXXXXXXX.

Press the ENTER button to be able to adjust the time setting or use the ↑ or ↓ buttons to display the Appliance to be set.

You will see displayed:

XXXXXXXXXXXX
TIME 1 ON.

Toggle the ↑ or ↓ buttons to either turn the appliance ON or OFF the timer.

If you select OFF the next allocated appliance will be shown.

If you select ON then the controller will display:

XXXXXXXXXXXX
TIME 1 FRM XX.XX

Use the ↑ or ↓ buttons and the Enter button to allocate a start time. Once the time has been entered, the next display will be:

XXXXXXXXXXXX
TIME 1 TO XX.XX

Use the ↑ or ↓ buttons and the Enter button to allocate an end time. Once the time has been entered, the next display will be:

XXXXXXXXXXXX
TIME 2 ON/OFF

Adjust TIME 2 setting as with TIME 1.

Once the TIMER setting has been completed you can move onto the next allowable appliance. Adjust and set as above.

Notes:

- Socket type **“Sanitiser”** is not allowed on appliance timer, it follows the times set in menu option 1. Filter Times, or other pre-determined parameters that require the Sanitiser to be running, ie; Heating, or Spa Mode if the Santiser is allocated to do so, in either 6.4 Heating or 6.5 Spa.
- Socket type **“Filter Pump”** is not allowed on appliance timer, it follows the times set in menu option 1. Filter Times. It will also follow other pre-determined parameters that require the Filter Pump to be running, ie; Cleaning [by pump and valve], Solar [by pump and valve], Water Feature [by pump and valve], Heating [if the heater is in the Filtration line], Spa Mode,
- Socket type **“Solar”** isn’t allowed on appliance timer, it follows Solar configuration and Solar Start Time.
- Socket type **“Always On”** is not allowed on appliance timer.

4. TIMERS CONTINUED

Notes Continued:

- Socket type **“Blower”** is not allowed on appliance timer, generally used in Spa Mode, but can be manually turned On or Off through 3. Control.
- Socket type **“Jet Pump”** is not allowed on appliance timer, generally used in Spa Mode, but can be manually turned On or Off through 3. Control.
- Socket type **“Heat Pump Ind”** is not allowed on appliance timer, it follows Heating configuration and times set in Heat Demand. It will also follow other pre-determined parameters that require the Heat Pump Ind to be running, ie Spa Mode.
- Socket type **“UV Sanitiser”** is not allowed on appliance timer, it follows the times set in menu option 1. Filter Times or other pre-determined parameters that require the Sanitiser to be running, ie; Heating, or Spa Mode if the Santiser is allocated to do so in either 6.4 Heating or 6.5 Spa.
- Valve type **“Pool/Spa”** is not allowed on appliance timer, used only to switch between Pool & Spa Modes.
- Valve type **“Solar”** is not allowed on appliance timer, it follows Solar configuration and Solar Start Time.
- Valve type **“Feature from Solar”** is not allowed on appliance timer as it is a manual function only and will only activate if a socket has been allocated to be an ‘Independent Solar Pump’.
- Valve Type **“Heater”** is not allowed on an appliance timer, it follows the Heat Demand timer.
- VF contact types **“Gas Heater & Heat Pump”** are not allowed on appliance timers, it follows the Heat Demand timer. It will also follow other pre-determined parameters that require the Heater to be running, ie Spa Mode.
- **“Spa Mode”** is not allowed to be set in appliance timers, but it can have a timer set in 6.5 Spa [see page 40].

Ensure when you set the timers for different appliances that the maximum combined load DOES NOT exceed either the controllers power rating, or the power rating of the expansion unit/s when the different appliances are activated at the same time.

5. LIGHTS

In this menu setting, you can only change the colour of your allocated Pool and Spa light/s. Garden lights are not given the option of colour changing.

The socket number and the brand/type of light must have been allocated in the Installer Setup under Appliances [6.3] before you can change the colours through this menu option.

When you enter the Lights menu the controller will display the allocated socket number, allocated light type, and the brand/style of light. For example.

S6: POOL LIGHT
SINGLE COLOUR

The ↑ or ↓ buttons can be used to move between the allocated lights to the light you wish to change. Once the Light is displayed on the screen, press Enter and the controller will display:

S6: [Brand name]
[current colour]

Use the ↑ or ↓ buttons to toggle through the range of colours (if any) associated with that brand of pool light. Press Enter to accept the colour you wish to choose.

If you so wish you can then move onto another allocated socket and change the colour settings of that socket.

Adjust the colour as described above.

Note:

- A maximum of 3 sockets can be allocated to lights, whether Pool, or Spa. Each socket/group of lights will be the same colour as chosen for that allocated socket.

App Only Function

Syncing light colour to selected App colour.



If you find that the light colour you are selecting through the App, isn't corresponding with the colour that the actual light is on, you can press the Sync button on the home screen of the App to correct this. You will first need to turn the light/s on for this button to appear.

← Sync Button.

Once you have pressed the sync button, the syncing process can take just a couple of seconds to a couple of minutes.

Wait for the syncing symbols to stop rotating and then change to a different colour to ensure the process has been successful.

Note: Spa Electric Multi Plus lights – See 6.3 Lights for further instructions

6. INSTALLER MENU

The Installer Setup is where you will go to enter all the equipment that is installed on the Pool/Spa system and can have its settings changed in the Menu functions or via the App.

6. INSTALLER MENU CONTENTS PAGE	Under the Installer Menu there is a range of options to choose from. These are:	
	1. Appliances	Page 22 to 26
	2. Pump	Page 27 to 29
	Variable Speed Pump Wiring Connection Diagrams	Pages 30 to 32
	Variable Speed Pump Setup Methods	Pages 33 to 36
	3. Lights	Pages 37 & 38
	4. Heating	Page 39 to 43
	5. Spa	Page 44 to 46
	6. Heat Demand	Page 47
	7. Pump Call	Page 48 & 49
	8. Water Feature	Page 50
	9. Temperature Sensor	Page 51
	10. Expansion Unit	Page 52 & 53
	11. Set Time	Page 54
	12. WIFI & Wifi Connection Process	Page 55 to 62
	13. Chemical Balance	Page 63 to 65
14. Reset Passcode	Page 66	
15. Factory	Page 66	
16. About	Page 66	
Use the ↑ or ↓ buttons to toggle through the list of menu options. When the option you want is displayed on the screen, press the Enter button.		

6.1 APPLIANCES

Appliances can be allocated on up to 8 power sockets, 4 valves and 2 VF contacts.

Socket 1-2, Valves 1-4, and VF Contact 1 are all located on the master controller.

Sockets 3, 4, & 5 are located on Expansion Unit 1.

These sockets are only available for selection if the expansion unit is there and has been enabled.

Sockets 6, 7, & 8 are located on Expansion Unit 2.

These sockets are only available for selection if the expansion unit is there and has been enabled.

VF Contact 2 can be located on either of the Expansion units

The list of appliances available to choose from are listed below:

Sockets

- Sanitiser
- Filter Pump
- Cleaning Pump
- Blower
- Pool Light
- Spa Light
- Garden Light
- None
- Water Feature
- Solar Pump
- Other
- Always On
- Jet Pump
- Heating Pump [independent]
- UV Sanitiser

Valves

- Pool/Spa
- Solar
- Water Feature
- In Floor
- Feature from Solar
- Other
- Heater
- None

VF Contact 1

- None
- Gas Heater
- Heat Pump

VF Contact 2

- None
- Gas Heater
- Heat Pump

When you enter the Appliance Menu, the first thing that will be displayed is:

SOCKET #1

[currently allocated appliance]

The ↑ or ↓ buttons are used to toggle between the Sockets of the Master Controller then Expansion Unit 1, then Expansion Unit 2, then the Valves and VF Contact of the Master Controller. Once the Appliance you want to change is displayed on the screen, press Enter.

This will move the cursor next to the allocated appliance. Use the ↑ or ↓ buttons to toggle through the range of Appliances that can be selected for that output. Once the Appliance you want to select is displayed, press Enter. The Appliance will have been selected and the controller will then display the next socket/valve/VF contact:

SOCKET #2

[currently allocated appliance]

Note: When you move to the next appliance the cursor will still be next to the allocated appliance.

If you wish to change this appliance, simply use the ↑ or ↓ buttons to toggle through the range of allowable appliances. Press Enter to select.

Keep pressing Enter to scroll through the allocated appliances (if there is another socket, valve, or VF contact you wish to change) until the appliance you wish to change is displayed. Use the ↑ or ↓ buttons to toggle through the range of allowable appliances. Press Enter to select.

Alternatively, if you don't want to change any more appliances, press MENU to exit.

SANITISER NOTE:

The Sanitiser must be set to operate 24hrs per day or manually ON as the AQUATEK controller will control the number of hours per day the sanitiser will operate. Refer to the Sanitisers instructions for 24hr timer setup and dosing requirements.

When changing the Valve appliances, the controller will display:

VALVE #1
[currently allocated appliance]

The Valve appliance is changed the same way as the Socket appliances.

Note: The Aquatek Controller will only turn 2 valves at the same time, ie Pool/Spa valves. There will be a 40 second delay before a third and/or fourth valve will be turned.

Valve Actuator Appliance Notes;

Feature from Solar

This feature gives you the ability to be able to utilise an **independent solar heating system** for a water feature, such as a water slide.

A socket needs to be allocated under Appliances as a solar pump and a valve socket allocated as a Feature from Solar.

A 3 way valve with actuator needs to be plumbed in after the solar pump but before the water goes up to the roof.

The Feature from Solar needs to be turned to ON under the Control menu. This will ensure the valve is turned to divert water to the water feature and the solar pump is turned on.

No solar heating is allowed when the feature is utilised.

No Timer can be set for this feature, so it will need to be turned to OFF or AUTO in the Control menu.

Once the feature is turned to OFF or AUTO the solar pump may turn back on to sample the water temperature and resume solar heating of the system if solar gain is available.

Other

This is a Timer based feature for a valve output. When the feature is within its Timer range (or manually turned On or Off) it will turn the Valve output on. This output can be utilised to turn a valve, or switch on a contactor point for an additional heater.

Note: This option will not instigate turning a filtration/circulation pump on.

Heating by Valve

This feature gives you the ability to turn a motorised actuator valve to send water onto a roof [or to any other location] where a heat pump or gas heater is installed.

The valve actuator will be installed in the filtration line and the valve will be opened when the heater interlock circuit is activated, or closed when the heater interlock circuit is de-activated.

This valve feature is locked to the VF contact and the Heat Demand timer. No additional timer can be set for this option.

When changing the VF Contact, the controller will display:

VF CONTACT
[currently allocated appliance]

The VF Contact is changed the same way as the Socket & Valve appliances.

If you have an Expansion Plus unit fitted, then you will have the ability to set a second VF contact.

Note: *The Aquatek system will only recognize 2 VF Contact connections. Even if you connect 2 Expansion Plus units [attempting to gain 3 VF contacts], the Master controller will only accept and recognize one of the Expansion Plus units.*

UV Sanitiser

This application is applicable if the system has a UV Sanitiser or an Ozone generating unit installed.

An Appliance set as a UV sanitizer will work the same, and under the same parameters as a normal sanitiser [Chlorinator], ie; will turn on and run during the set Filtration Times.

The difference between a normal Sanitiser [Chlorinator] and the UV Sanitiser [UV or Ozone] becomes more apparent when an **Aquachem** [with ORP control] is also installed as part of the system.

When an Aquachem is installed, the Aquatek system will turn the Sanitiser off for a period of 3 minutes every hour to sample/test the ORP and pH readings of the water. The Aquatek system does this to ensure that there is no electrical noise or interference with the sample reading. The Aquatek will do the same with an output set to UV Sanitiser.

After the 3 minute sample/test period the Aquatek will do 1 of 2 things;

1. Turn both the outputs labelled as Sanitiser and UV Sanitiser back on for a further 60 minutes to continue sanitising before turning off again for a 3 minute test/sample. In this instance the ORP reading is below the Set Point. Or
2. It will leave the output labelled as Sanitiser [Chlorinator] turned off but will turn the output labelled as UV Sanitiser [UV or Ozone] back on again to continue for a further 60 minutes before completing another 3 minute sample/test. In this instance the ORP reading is at, or above the required Set Point, so the Chlorinator has been dis-engaged as there is no reason to continue adding Chlorine. The Aquatek will continue to sanitise the pool/spa using the UV or Ozone sanitiser.

Note: In Spa Mode, the UV Sanitiser will be left to run 100% [non-adjustable] of the time that Spa Mode is active, unlike a regular Sanitiser which may be set to run a far lower % of time if Sanitiser Duty Cycle has been activated in Spa Setup. **See 6.5 SPA.**

Appliance Combination Notes:

The Aquatek system will lock certain appliances together to achieve a determined result. The Aquatek system will do this automatically. See listed below what appliance combinations work together.

- **Sanitiser, UV Sanitiser & Filter Pump** – The Aquatek will turn on both the Sanitiser and/or the UV Sanitiser with the Filtration Pump together at the start of Filter Times, or if the Sanitiser and/or UV Sanitiser is turned to On in the App.
- **Cleaning Pump & Filter Pump.** The Aquatek will turn on both the Cleaning Pump and the Filtration Pump together at the start of the Cleaning Pump Times or if the Cleaning Pump is turned to On in the App. The Aquatek will always treat an Appliance allocated as a Cleaning Pump as being a boost pump, that is, it draws water from the filtration line. So in order for the Cleaning Pump to not be run dry, the Aquatek system will automatically turn the Filter Pump on.

Notes: – An Appliance allocated as a Cleaning Pump will also be turned off if the system is switched into Spa Mode.

– If the Cleaning Pump is on an independent line [draws water directly from the pool] then the best option may be to assign the socket to Other [instead of Cleaning Pump] but re-name the output to be a Cleaning Pump. You can then set any timer for the Cleaning Pump without the Filtration Pump being instigated. In this case the Cleaning Pump won't be turned off if the system is switched into Spa Mode.

- **Water Feature & Filter Pump** – The Aquatek will turn on both the Water Feature Pump and the Filtration Pump together at the start of the Water Feature Times or if the Water Feature is turned to ON in the App. The Aquatek will always treat an Appliance allocated as a Water Feature as being a boost pump, that is, it draws water from the filtration line. So, in order for the Water Feature Pump to not be run dry, the Aquatek system will automatically turn the Filter Pump on.

Notes: – An Appliance allocated as a Water Feature will also be turned off if the system is switched into Spa Mode.

– If the Water Feature Pump is on an independent line [draws water directly from the pool] then the best option may be to assign the socket to Other [instead of Water Feature] but re-name the output to be a Water Feature. You can then set any timer for the Water Feature without the Filtration Pump being instigated. In this case the Water Feature won't be turned off if the system is switched into Spa Mode.

- **Solar Pump and Filtration Pump** – There are some circumstances where the Aquatek system will turn on the Filter Pump regarding a Solar Pump.
 - The first one will occur if in Heating Setup you have assigned the Solar Pump as being Boosted, which means that the Solar Pump is drawing water from the filter line. The Aquatek system will first turn the Filter Pump on [if it wasn't already running] for 3 minutes to sample the water temperature and prime the filter line, after which time it will continue running the Filter Pump and turn the solar pump on to heat the pool, or not if the pool is at or above the current set Solar Limit.
 - The second instance would be for a solar Pump setup as being in an independent line, but the pool sensor location is allocated to the Filtration line [possibly have another heater in the Filter Line]. The Aquatek will complete the 3 minutes temperature check using the Filter Pump and then turn it off after the solar pump has been started. The Filter pump will be turned back on again in 1 hours time, to re-sample the water temperature, at which point it will either turn off and leave the solar Pump to continue running to heat the pool or turn both off if the pool has reached the set Solar Limit.
 - If the Solar Pump is setup as being boosted, then the Solar Pump will be turned off if the Aquatek system is switched into Spa Mode.

- **Heating Pump [ind] and Filter Pump** – The only instance where these 2 pumps will be running together is where the Heating Pump [Ind] is allocated to a socket and setup in Heating Setup, but the pool sensor location is allocated to the Filtration line [possibly have another heater in the Filter Line]. The Aquatek will complete the 3 minutes temperature check using the Filter Pump and then turn it off after the Heating Pump [Ind] has been started. The Filter pump will be turned back on again in 1 hours' time, to re-sample the water temperature, at which point it will either turn off and leave the Heating Pump to continue running to heat the pool or turn both off if the pool has reached the set Heater Limit.
- **Solar by Valve and Filter Pump** – If in Heating Setup you have assigned the Solar as being By Valve, it means that the Solar is plumbed the filter line with a 3 way valve and valve actuator. The Aquatek system will first turn the Filter Pump on [if it wasn't already running] for 3 minutes to sample the water temperature and prime the filter line, after which time it will continue running the Filter Pump and activate the solar valve to turn on to heat the pool, or not, if the pool is at or above the current set Solar Limit.
Note: – A Valve port allocated as a Solar will be turned off if the system is switched into Spa Mode. An exception to this would be if it is set up as Solar by valve off the Heating Pump [Ind] line and you have an Expansion Plus installed. The Aquatek system will continue to heat the pool at this point while the Spa is also active.
- **Water Feature by Valve and Filter Pump** – If a Valve actuator port is allocated to Water Feature, the Aquatek will assume that it is in the filter line and it will automatically turn the filtration pump on if either the Water Feature timer becomes active or the Water Feature option is tuned to its ON position in the APP.
Note: – A Valve port allocated as a Water Feature will be turned off if the system is switched into Spa Mode.
- **Infloor Cleaning by Valve and Filter Pump** – If a Valve actuator port is allocated to Infloor Cleaning, the Aquatek will assume that it is in the filter line and it will automatically turn the filtration pump on if either the Infloor Cleaning timer becomes active or the Infloor Cleaning option is tuned to its ON position in the APP.
Note: – A Valve port allocated as Infloor Cleaning will be turned off if the system is switched into Spa Mode.
- **Heating by Valve and Filter Pump** – If a Valve actuator port is allocated to Heating, the Aquatek will assume that it is in the filter line, and it will automatically turn the filtration pump on if either the Heat Demand timer becomes active, or the Heating option is tuned to its ON position in the APP.
Note: – A Valve port allocated as a Heating may not necessarily be turned off if the system is switched into Spa Mode, as the heater may be required to heat the Spa.
- **VF Contact [Heat Pump/Gas Heater] and Filter Pump** – Unless the heater is specified as being in the Independent line. The filter pump will be turned on for a 3 minute temperature check [unless already running] before a Heater will then be engaged. This will occur if either the Heat Demand timer becomes active, or the Heater [Heat Pump/Gas Heater] option is tuned to its ON position in the APP.
- **Spa Mode** – In the instance that the system is put into Spa Mode [whether by Timer or from the Home screen], the Aquatek system will automatically activate any associated appliances that need to be activated in order to run and heat the Spa. This will include the; Filter Pump, Pool/Spa valves, heater/s, Jet Pumps, Blowers, Spa Lights, etc if they have been assigned.
The Aquatek will also dis-engage any appliances that will inhibit the Spa from running correctly, ie Pool Cleaning Pumps, Solar Pump, Water Features, etc.
Note: It won't matter if the Spa is on an independent line to the Pool, the Aquatek will still activate the Filter Pump.

6.2 PUMP

In this menu option, you will be able to select which type and brand of filtration pump your system is running and what its default speed will be.

The options for brands and models of Multi Speed Pumps are:

Theraflo TVS 1.0 & 1.5hp

Theralux TVS Pro 2 V3 1.25 & 1.75hp

Theralux TVS Pro II V4 1.0 & 1.5hp

Reltech

Reltech P 485

Hayward MaxFlo/TriStar

Pentair VS/VF

Pentair EM1500/WhisperFlo 1500

Pentair EM800/WhisperFlo 800

Insnrq Qi

Insnrq Zi

DAB E-Swim

Henden 3 Speed

Henden 280

Henden VSD400 [2021 model onwards]

Speck

Oasis V Series

Davey VSD400 [2021 model onwards]

Legend Ultra VS

Waterco Hydrostorm ECO 100 & 150

Madimack Inverflow

Madimack Inverflow Ultra & Pro

Chilli Sonic

Emaux E Turbo

See the tables on page 27 for each Variable Speed pump and its respective pump communication cable manufacturer or distributor.

**6.2
PUMP
CONTINUED**

When you Enter this sub menu option, the controller will display the option to choose either a Single Speed Pump or Multi Speed Pump:

PUMP TYPE
MULTI-SPEED

Use the ↑ or ↓ buttons to switch between the 2 options, press Enter to accept.

If you Enter SINGLE SPEED, the controller will accept the option and return you to the Installer Setup Menu.

Note: If you have set the Pump Type to be a Single Speed, ensure that a socket has been allocated to Filter Pump in 6-1 Appliances.

If you Enter MULTI SPEED, then the controller will display:

PUMP BRAND
NONE

Use the ↑ or ↓ buttons to scroll through the range of allowable pump brands. Press Enter on the brand you wish to select when you see it displayed.

Once the pump model is entered, the controller will ask you to set, up to 4 pump speeds.

- In the case of a Theralux TVS Pro 2 V3, Theralux TVS Pro II V4, Reltech P 485, Pentair EM1500, Pentair WhisperFlo 1500, Henden 280, Oasis V Series, Legend Ultra VS, Insnrg Qi & Zi, Chilli Sonic, and Emaux E Turbo pumps, you will be asked to set the speeds in RPM.
- In the case of the Pentair VS/F, Theraflo TVS, Reltech, Henden 3 Speed, Pentair EM800, Pentair WhisperFlo 800 Waterco Hydrostorm ECO 100 &150, Madimack Inverflow, and Speck pumps, you will only set a default speed, as the pump has pre-set speeds.

Note: The Pentair VS/F will need to have up to 4 pump speeds set via the pump manufacturer's instructions, the rest of the pumps will need to have up to 3 speeds set via the pump manufacturer's instructions.

- In the case of the DAB E-Swim, Davey ProMaster VSD 400, Henden VSD 400, Hayward MaxFlo, Hayward TriStar, and the Madimack Inverflow Ultra or Pro pumps you will be asked to set the 4 pump speeds as a percentage.

Once the speed/percentage has been set, the Aquatek will ask what Default speed you want the pump set at.

This is displayed as:

PUMP DEFAULT
SPEED X

Use the ↑ or ↓ buttons to scroll through the range of pump speeds [1, 2, 3, or 4] that you have just set. Once you have adjusted the default speed, press Enter to accept.

The controller will accept the default speed and return to the Installer Setup Menu.

Note: If you have a variable speed pump, go to pages 30 to 36 of this manual, to see the required Wiring diagrams, Priming and Connection instructions for each of the brand/series of pumps being used.

The controller will then display:

PUMP PRIMING
ON

Use the ↑ or ↓ buttons to switch between ON or OFF, press Enter to accept.



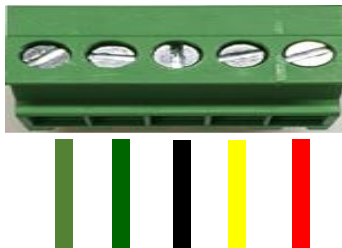
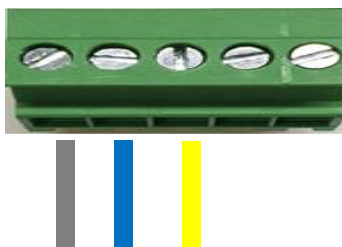

This allows you to retain, or de-activate the initial 3 Minute Priming sequence.

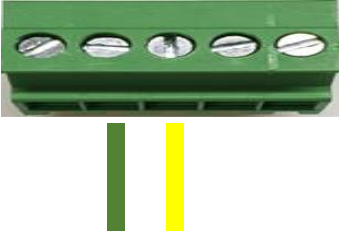
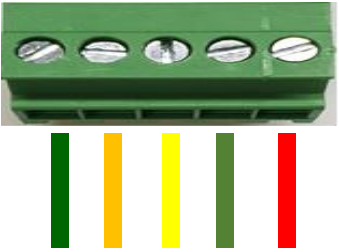

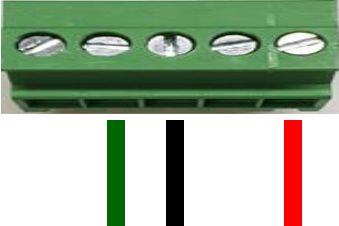
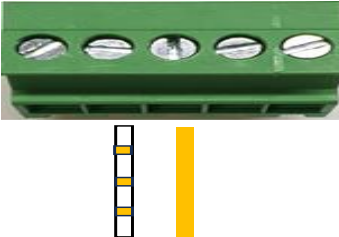

6.2
PUMP
CONTINUED

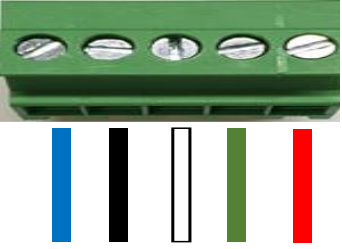
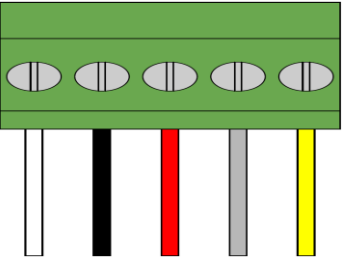
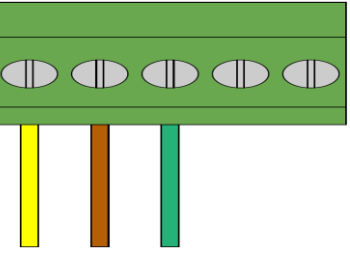
Pump Communication Cable Manufacturer/Seller	Pump Models	
Dontek & Associated Distributors	- Reltech - Reltech P 485 - Speck	- Davey VSD 400 - Pentair EnviroMax 800 - Pentair WhisperFlo 800
International Quadratics & Associated Distributors	- Theraflo TVS 1.0 & 1.5 - Theralux Pro 2 V3 1.25 & 1.75hp	- Theralux Pro 3 V4 1.0 & 1.5hp
Reece Plumbing & Reece Pool & Irrigation	- Henden 3 Speed - Henden 280	- Henden VSD 400
Sunlover Heating	- Oasis V Series pump	
Legend Pool Products	- Legend Ultra VS	
DAB Australia and Associated Distributors	- E-Swim	
Hayward Australia and Associated Distributors	- Hayward MaxFlo	- Hayward TriStar
Pentair Australia and Associated Distributors	- Intelli Flo VS	- EnviroMax 1500 - WhisperFlo 1500
Waterco Australia and Associated Distributors	- Hydrostorm Eco 100	- Hydrostorm Eco 150
Madimack Australia and Associated Distributors	- Inverflow	- Inverflow Ultra - Inverflow Pro
Insnrq Australia & Associated Distributors	- Insnrq Qi	- Insnrq Zi
Summertime Pools & Associated Distributors	- Chilli Sonic	

Dontek Pump Cable Part Number	Pump Models	
3051081	Reltech 3 Speed Speck	Henden 3 Speed Theraflo TVS 1.0 & 1.5hp
3051082	Insnrq Zi	Insnrq Qi
3051092	Reltech P485 Oasis V Series Legend Ultra VS	Henden 280 Theralux TVS Pro 1.25 & 1.75hp V3 Theralux TVS Pro II 1.0 & 1.5hp V4
3051093	Henden VSD 400	Davey VSD400
3051129	Pentair EnviroMax 800	Pentair WhisperFlo 800

VARIABLE SPEED PUMP WIRING DIAGRAMS

<ul style="list-style-type: none"> - <u>THERAFLO TVS</u> - <u>RELTECH</u> <ul style="list-style-type: none"> - <u>HENDEN</u> - <u>SPECK</u> 	Yellow Wire	Green Wire	Brown Wire	Red Wire	Black Wire
<ul style="list-style-type: none"> - <u>CHILLI SONIC</u> - <u>EMAUX E Turbo</u> 		Wire A	Wire B		
<ul style="list-style-type: none"> - <u>RELTECH P 485</u> - <u>OASIS V SERIES</u> - <u>HENDEN 280</u> - <u>THERALUX TVS Pro 2 V3</u> - <u>THERALUX TVS Pro II V4</u> - <u>LEGEND ULTRA VS</u> 	Green Wire	Brown Wire	Black Wire	Yellow Wire	Red Wire
<ul style="list-style-type: none"> - <u>HAYWARD MaxFlo VS</u> - <u>HAYWARD TriStar VS</u> 	Grey Wire	Blue Wire	Yellow Wire	None	None
<ul style="list-style-type: none"> - <u>HENDEN VSD 400</u> 	<p>The control cable for this pump will need to be purchased from your local Reece store.</p>				

<p align="center">- PENTAIR VS/F</p> 	None	Green Wire	Yellow Wire	None	None
<p>- PENTAIR ENVIROMAX 1500 - PENTAIR WHISPERFLO 1500</p> 	Brown Wire	Orange Wire	Yellow Wire	Green Wire	Red Wire
	<u>Alternate</u> Brown Wire	Orange Wire	Blue Wire	White Wire	Red Wire
<p>- PENTAIR ENVIROMAX 800 - PENTAIR WHISPERFLO 800</p> 	The control cable for this pump will need to be purchased from a Dontek associated Distributor.				
<p>- DAB</p> 	None	Brown Wire	Black Wire	None	Red Wire
<p>- INSNRG Qi - INSNRG Zi</p> 	<u>CAT5 Cable</u> <u>Green Cable</u> None	White/Orange Stripe Wire	Orange Wire	None	None
	<u>Black Cable</u> None	White/Brown Stripe Wire	Brown Wire	None	None
<p>- DAVEY ProMaster VSD 400</p> 	The control cable for this pump will need to be purchased from a Dontek associated Distributor.				

<p>- <u>WATERCO Hydrostorm ECO 100</u> - <u>WATERCO Hydrostorm ECO 150</u></p> 	Blue Wire	Black Wire	White Wire	Green Wire	Red Wiere
<p>- <u>MADIMACK Inverflow</u></p> 	White Wire	Black Wire	Red Wire	Grey Wire	Yellow Wire
<p>- <u>MADIMACK Inverflow Pro</u> - <u>MADIMACK Inverflow Ultra</u></p> 	Yellow Wire	Brown Wire	Green Wire		

VS PUMP PRIMING & CONNECTION METHODS

1. Reltech P 485 / Oasis V Series / Theralux TVS Pro 2 V3 / Theralux TVS Pro II V4 / Legend Ultra VS.

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 / WhisperFlo 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 lit green.
- d) Press the 'Start / Stop' button.
- e) The light next to 'Start / Stop' will be lit green.

NOTE: In some instances, you may only be able to get speeds 3 & 4 working and not 1 & 2. If this is the case, use the alternate wiring schedule as described on page 10.

3. Pentair enviroMAX 800 / WhisperFlo 800.

3.1 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.

3.2 Turning On External Control

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

4. Pentair VS/F.

4.1 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.

4.2 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.

5. Chilli Sonic / Emaux E Turbo.

Note: This pump will be supplied with RS485 communications already enabled.

- a) Connect the 2 wires to the connection point in the pump as detailed in the pump manual.
- b) Connect the other end of the 2 wire cable into the 5 pin plug [supplied with the controller] as detailed above on page 28 of this manual
- c) Insert the 5 pin plug into the base of the controller in the Pump Control port.
- d) The controller now has control over the pump.

6. Insnrg Qi / Insnrg Zi.

6.1 Turning Off Priming

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

6.2 Turning On External Control

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

7. Reltech / Theraflo TVS / Henden / Waterco Hydrostorm 100 & 150.

7.1 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.

8. DAB E.Swim.

8.1 Turning Off Priming

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

8.2 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.
- f) If pump displays 'System Disabled', press the Run/Stop button.

9. Davey ProMaster VSD 400 / Henden VSD 400.

9.1 Turning On External Control

- a) Set the pump Dial to Bluetooth position – the LED will turn on white and then blue.
- b) When the Aquatek is controlling the pump, the LED will flash green.

10. Hayward MaxFlo VS / Hayward TriStar VS.

10.1 Configuring the pump

- a) Press the 'Run/Stop' button to halt the pump.
- b) Press and hold the 'Disp/Func' until the display shows 'Config'.
- c) The display will then show e.g 'Pr0.03' which stands for 'Prime for 3 minutes'.
- d) Keep pressing the 'Disp/Func' button until the display shows '485 n'. Press the ▼ button to set it to 'y'.
- e) The display will show 'r5485' and then 'Stop'.

10.2 Communication between Aquatek & pump

- a) Press the 'Run/Stop' button; if the display alternates between 'r5485' and 'FAIL' check the connection of the pump communication cable.
- b) Connect the pump to the Aquatek as per the cable connection diagram above; the pump display will show '□ 0' when communication with the Aquatek starts.
- c) The value 0 will change according to the speed set by the Aquatek and the display will alternate between this RPM value and the power value e.g. '□ 600' and 'P 14' for RPM=600 and Power=14W.

Note: The pump will display 'r5485' and 'FAIL' until the Aquatek sends it a command to turn on.

If there is no reason for the pump to be running, the 'FAIL' message may remain until the Aquatek sends the command to turn on the pump.

11. Speck [with Fasco Motor].

11.1. Turning Off Priming

- a) Disconnect the pump communication cable from the pump
- b) Turn the pump OFF [Display shows 'OFF']
- c) Press and hold the 'Set' button for 3 seconds until the speed is displayed.
- d) Press the 'OK' button until the time is displayed.
- e) Press the ↓ button until the value is '00'.
- f) Press the 'OK' button to confirm and save.
- g) If required, adjust pump speeds [as per manufacturer's instructions] to suit then save prior to reconnecting the communication cable.

12. Madimack Inverflow.

12.1 Turning Off Priming

- a) Turn the pump off.
- b) Press and hold the ▲ and ▼ buttons for 3 seconds
- c) The parameter setting #1 will be displayed.
- d) Press and hold the ▲ and ▼ buttons for 3 seconds again to move to the next parameter; repeat until parameter setting #5 is displayed.
- e) By default, parameter setting #5 is set to 25 when Priming is ON.
- f) Press the ▲ or ▼ button to change the value to 0 to turn Priming OFF.
- g) Press and hold the ▲ and ▼ buttons again to save.

12.2 Setting Speeds 1-3

- a) Turn the pump off.
- b) Press and hold the ▲ and ▼ buttons for 3 seconds
- c) The parameter setting #1 will be displayed – this refers to Speed 3.
- d) Press the ▲ or ▼ button to change the value.
- e) Press and hold the ▲ and ▼ buttons again to move to parameter setting #2 – this refers to Speed 2.
- f) Repeat for parameter setting #3 – this refers to Speed 1.

13. Madimack Inverflow Pro & Ultra.

13.1 Turning Off Priming

- a) Turn the pump off.
- b) Press and hold the ▲ and ▼ buttons for 3 seconds
- c) The parameter setting #1 will be displayed.
- d) Press and hold the ▲ and ▼ buttons for 3 seconds again to move to the next parameter; repeat until parameter setting #6 is displayed.
- e) By default, parameter setting #6 is set to 25 when Priming is ON.
- f) Press the ▲ or ▼ button to change the value to 0 to turn Priming OFF.
- g) Press and hold the ▲ and ▼ buttons again to save.

Note

The above 7-pin cable can be wired as the Madimack Inverflow 5-pin cable and the Pro/Ultra pump can be controlled using the Digital Input pins as in Section 10.

14. Henden 280.

14.1 Turning Off Priming

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

14.2 Turning On 485 Communication

- c) Hold the 'stop' button for approximately 5 seconds, until the pump display flashes once.
- d) Continue holding the Stop button and press the MID button.
- e) The pump display will show eg. 'P 5' [to select priming time in minutes].
- f) Continue holding the Stop button and press the MID button.
- g) The pump display will show eg. '2400' [to select priming speed in RPM].
- h) Continue holding the Stop button and press the MID button.
- i) The display will show 'Rb Of'. Press Up/HIGH or Down/LOW button to change to 'Rb On' while still holding down the Stop button.
- j) Continue holding the Stop button and press the MID button, then release the Stop button.
- k) When communication with Aquatek is successful, the display will show '- - - -'

6.3 LIGHTS

In this menu option, you will be able to select which type and brand of Pool & Spa lights that you have installed.

- *A maximum of 3 sockets can be allocated to lights, whether Pool, or Spa. Each of the 3 sockets will run a Light Transformer. Each socket/group of lights will be the same colour as chosen.*
- *Before any pool or spa lights can be setup in this menu option, 1, 2, or 3 sockets need to have been allocated in appliances to either the pool or spa light.*

When you enter this menu option, the first socket that has been allocated will be displayed along with the allocated appliance. The controller will display:

S2: SPA
SINGLE COLOUR

Use the ↑ or ↓ buttons to scroll through the allocated sockets, press Enter to change the displayed socket.

After you press Enter, the cursor will be located on the second line. Use the ↑ or ↓ buttons to scroll through the allowable brands of lights.

The allowable brands and types are as follows:

Single Colour

AquaQuip

AquaQuip Instatouch

Aquatight

Aquatight Supa Nova

Astral Pool

Spa Electrics

Spa Electrics Multi Plus

ModLite

Jandy

Press Enter to select the light brand installed.

The controller will now display: [For Example]

“LIGHT BRAND”
PURE RED

Use the ↑ or ↓ buttons to scroll through the colours that are available to the brand of light.

Once the colour you want is displayed on the screen, press Enter to accept the colour.

- If there is only one socket that is allocated to a light, the controller will return you to the Installer Setup Menu.
- If there is more than one socket allocated to a light, the controller will keep you in this menu option. You can use the ↑ or ↓ buttons to scroll through the other allocated sockets. Press Enter when another allocated socket is displayed in order to change that particular socket’s setting. Change the settings as above.
- Once you have finished, press the Back Button to return you to the Installer Setup Menu or press the Menu Button to return the controller to normal operations.

App Only Feature for Spa Electric Multi Plus lights



If you have Spa Electric Multi Plus Lights and you are still having trouble getting the lights to sync (using the sync button on the home screen), then the light transformer may not be in Iris Mode.

Ensure the light/s are turned ON, go into the App Menu and go to Light Setup.

You will see this symbol.

Press it and the Aquatek system will start the process of putting the light transformer into Iris Mode.

This will take a couple of minutes to complete. The symbol will be pulsing On and Off during this process.

When the symbol stops pulsing, the process is complete.

Try changing the light colour to see if they match.

If they are not matching the selected colour, re-sync the lights (see below) for process.



If you find that the light colour you are selecting through the App, isn't corresponding with the colour that the actual light is on, you can press the Sync button on the home screen of the App to correct this.

You will first need to turn the light/s on for this button to appear.

Sync Button.

Once you have pressed the sync button, the syncing process can take from just a couple of seconds to a couple of minutes.

Wait for the syncing symbols [arrows] to stop rotating and then change to a different colour to ensure the process has been successful.

6.4 HEATING

In this Menu option, you will be setting up the type/s of heating that is installed.
The options are:

Solar

Heat Pump

Gas Heater

When you enter this menu option the first thing that is displayed is:

SOLAR

1. NONE

With Solar Heating, you have the options of:

1. NONE
2. SEPERATE [Independent plumbing]
3. VALVE
4. BOOSTED [Integrated plumbing]

Note: If you have no Solar Heating installed, press Enter to accept 1. None and the controller will move you onto the next option.

If you have an independent solar heating system, use ↑ or ↓ buttons to scroll down to 2. Separate and press Enter.

- If you have a system where a valve is turned to send water into the solar panels, select 3. Valve.
- If you have a Boosted [integrated] system, scroll to 4. Boosted and select.

Use the ↑ or ↓ buttons to select which option you would like, and press Enter.
Once you have selected one of the above options, the controller will display:

SOLAR ON
WINTER MODE OFF

Use the ↑ or ↓ buttons to select which option you would like, and press Enter.

Note: If you selected None for SOLAR, then the above option will not be displayed.

If you selected Solar as SEPARATE, the controller will now display:

SOLAR
SENSOR: XX

You will able to select one of two options;

- 1) FILTER - meaning that the Pool Sensor will be located in front of the Filter Pump. This is the best option if you have other heating sources [ie Heat Pump/Gas Heater]. If the filtration pump isn't already running, then every hour we will turn the filter pump on to complete a 3 Minute temperature check of the pool water.
- 2) SOLAR - the Pool Sensor will be located in front of the solar pump. The Solar Pump will be turned on to do the 3 Minute temperature check at the Solar Start Time and every 3 hours after Solar Limit is achieved.

Use the ↑ or ↓ buttons to select which option you would like, and press Enter.

Once you have pressed Enter to select, the controller will display:

SOLAR
SPEED X

The controller is asking what speed you would like the pump to run at when solar heating is asked for.

Note: This option will only appear if you've selected either Valve or Boosted SOLAR options.

Note: If you are running a single speed pump, this question will not appear.

Use the ↑ or ↓ buttons to select which pre-set speed you would like, and press Enter.

Once you have selected the pump speed, the controller will then display:

SOLAR
START TIME XX.XX

Adjust as above.

Note: Solar Heating will finish at 7pm. This finish time is not adjustable.

Once you have adjusted and accepted the Solar Heating start time, the controller will display:

SOLAR
ANTIFREEZE OFF

Use the ↑ or ↓ buttons to adjust the Antifreeze range from Off, 1 to 5 degrees and press Enter to accept.

Note: This option will be used in the instance that you have solar matting or panels on a flat roof or in the case of an installation that doesn't fully drain of water. This feature is to ensure the matting/panels on the roof don't get damaged by water freezing within them.

Once the roof temperature lowers to the Anti-Freeze set point, the controller will run the pump [filtration pump in the case of Boosted solar or Solar by Valve, Solar Pump in the case of an independent system] and flush water onto the roof for a period of 5 minutes, every 30 minutes until the roof temperature rises back above the selected temperature.

Note: This flush will most likely occur during the early to mid-morning hours where outside temperatures are at their lowest.

The controller will now move you onto the next option.

What will be displayed next will depend upon what was selected for VF Contact in Appliance Setup.

If nothing was selected under VF Contact then the controller will return you to the Installer Setup Menu.

If Heat Pump was selected under VF Contact, then the following will be displayed:

HEAT PUMP ON
OFF

Use the ↑ or ↓ buttons to move the cursor to either ON or OFF.

If you select OFF, the controller will return you too the Installer Setup Menu.

Select ON to enable the controller to run the Heat Pump, press Enter button to accept. The controller will then display:

CHILL MODE ON
OFF

Use the ↑ or ↓ buttons to move the cursor to either ON or OFF, press Enter to accept.

6.4 HEATING CONTINUED

Note: *Chill Mode* can be used in a tropical area where natural sunlight is heating the pool to a temperature above the set point [Pool or Solar Temperature] the Heat Pump can be switched over to Cooling [must be physically done on the Heat Pump control panel] and the Aquatek will utilise this Cooling Function to keep your pool temperature at the Set Point by cooling your pool.

If you selected ON for Chilling Mode, the following will be displayed;

HYDROTHERAPY ON
MODE OFF

Use the ↑ or ↓ buttons to move the cursor to either ON or OFF, press Enter to accept.

Note: *In a Hydrotherapy [cold water] situation, water can be cooled to lower temperatures, down to 10 degrees. Again, the Heat Pump must be physically switched over to its Cooling Function.*

Note: *Pool Temp can only be set below 20 degrees if both Chilling Mode & Hydrotherapy Modes have been activated.*

When you select On or Off for Chilling/Hydrotherapy Mode, the controller will then display:

COOL DOWN
TIME: XXMins

This is the controller asking how many minutes you would like the filtration pump to continue to run for once the Heater has stopped heating. Use the ↑ or ↓ buttons to increase or decrease the amount of time and press Enter for desired time.

The range of time for the Cool Down is 00Mins to 59Mins.

Note: *This function is here to help prolong the life of a Heater.*

What is displayed next will depend on other settings.

- a) Has an Appliance socket been allocated to Heating Pump [ind].
- b) Has a Multi Speed filtration pump been selected in Pump Setup.
- c) Neither of the above 2 options.

If a socket has been allocated to Heating Pump [ind], the following will be displayed;

1. FILTER
2. INDEPENDENT
3. INDEPENDENT WITH SENSOR

You will use the ↑ or ↓ arrows to select the option that best suits your installation, press Enter to accept and the controller will move you onto the next option.

- **Filter** – Meaning that the heater is installed within the filtration plumbing.
- **Independent** – Meaning that the heater is plumbed in separately to the filtration system and will have its own circulating pump. The pool will be heated to a temperature designated in the Aquatek controller as Pool Temperature.

Note: *In this scenario the pool sensor will be located in the Filtration Line on the suction side of the filter pump. The Filtration Pump will be turned on for 3 minutes to take a sample of the pool temperature if it is not already running. It will then shut off for an hour before turning on again for 3 minutes to sample the water temperature.*

- **Independent with Sensor** – The heater is plumbed independently, but the Aquatek will still control the temperature and will need the pool sensor drilled into the pipe in front of the independent heaters circulation pump.

**6.4
HEATING
CONTINUED**

If you select ON, the controller will utilise the “Water Sensor” and its temperature readings to control the heater allocated as VF2.

If you selected OFF, the controller will utilise the “Pool Sensor” and its temperature readings to control heater 2.

Note: It is highly recommended that the heat source which is plumbed into the Filtration Line be setup in 6-1 Appliances as VF1. It will make setup a lot easier. This will in-turn mean that the secondary heat source is allocated as VF2 and will generally (but not always) have the Water Sensor assigned to it.

This next option will only appear if you have an Expansion Plus unit connected to your Aquatek system.

The controller will display:

TRACKS HEATER 1
OFF

Range is OFF, 00°c to 15°c lower in 1°c increments. Default is OFF.

What this does is allow a Dual heater system to maintain a minimum temperature level without using both heaters all the time.

An example of this is as follows;

The system has both a Heat Pump (Heater 1) and a Gas heater (Heater 2). The system is to be heated to 32°. The Tracking Temperature is set to -4°. This means that once the system temperature has reached its Limit of 32°, the gas heater won't be used, only the Heat Pump will try and maintain the Limit temperature. If it is early/late in the season and the Heat Pump is struggling to maintain the system temperature of 32°, and eventually drops below the tracking temperature of 28° [32-4], the gas heater will be utilised to heat the system back up to the Limit Temperature, when it will then allow the Heat Pump to try and maintain the system temperature again.

6.5
SPA

In this menu option, you are able to turn ON or OFF Spa operation, and Spa options. It will be displayed as;

SPA.....ON
 OFF

Use the ↑ or ↓ buttons to highlight either ON or OFF. Press Enter to accept.

Note: *These Spa options can only be turned ON or OFF if they have been allocated a socket in the Appliances Menu.*

Select OFF, and the controller will turn off all spa options [including use of the SPA button on the front of the controller] and return you to the Installer Setup Menu.

If you select ON then the controller will display [only if allocated]:

BLOWER ON
 OFF

If you select ON, the controller will display:

BLOWER
SWITCH ON AT XX°

Use the ↑ or ↓ buttons to select what temperature you would like the Blower to turn on at and press Enter to accept.

Note: *The Temperature range is within a 10° offset from the set Spa temperature or Always On.*

If you select OFF, the controller will then display: [only if allocated in 6-1 Appliances]

JET PUMP ON
 OFF

If you select ON, the controller will display:

JET PUMP
SWITCH ON AT XX°

Use the ↑ or ↓ buttons to select what temperature you would like the Jet Pump to turn on at and press Enter to accept.

Note 1: *The Temperature range is within a 10° offset from the set Spa temperature or Always On.*

Note 2: *If you have both a Blower and a Jet Pump allocated under Appliances, the controller will let you select ON for Blower but will wait until after you select ON or OFF for Jet Pump before asking you what temperature you want the Blower to turn on at.*

Note 3: *If you select ON for both the Blower and the Jet Pump, the message that is displayed is:*

BLOWER + JET PUMP
SWITCH ON AT XX°

Once you have adjusted the above, the controller will display:

SPA ON
CHLORINATOR OFF

If you select OFF to Spa Chlorinator, the controller will move you onto the next option.

6.5
SPA

If you select ON, the controller will display:

SPA CHLORINATOR
DUTY CYCLE 10%

Use the ↑ or ↓ buttons to adjust the percentage of chlorination you would like, while the Spa is running. The percentage is adjustable in lots of 5% from 0% to 100%. Adjust and press Enter to accept. The controller will move you onto the next option.

Note: If an output has been assigned to UV Sanitiser, it will run 100% of the time while Spa Mode is active, separate to a normal Sanitiser set with the above Duty Cycle. For Example; Normal Chlorinator set to 10% Duty Cycle and UV Sanitiser runs 100% and the UV Sanitiser Duty Cycle is non-adjustable.

Once you have selected the temperature for the Blower and/or Jet Pump, and you have adjusted the Chlorinator Duty Cycle, the controller will move to the next option, selecting the Spa Pump speed (if a Multi Speed pump is installed) and will display:

SPA PUMP
SPEED X

Use the ↑ or ↓ buttons to select which pre-set speed you would like, and press Enter. The speed that you are able to allocated will depend on which pump you have and how many speeds it has.

Note: In the case of a Single Speed pump being installed, you won't be able to select a speed and the Spa Pump Speed question won't be displayed.

If you don't have Spa lights allocated, the controller will move to the next setting which is setting a Spa Timer.

If you have Spa Lights allocated, the controller will display:

S4: SPA LIGHT

When you press Enter you will be able to change the colour of the Spa light. This will be the colour that the Spa light will turn onto when the controller is switched into SPA MODE. It may be a different colour to what is set under the Timer menu.

Use the ↑ or ↓ buttons to scroll through the colours, press Enter to select. Once you have selected the Spa Light colour, the controller will display:

SPA ON
TIMER OFF

Use the ↑ or ↓ buttons to highlight either ON or OFF. Press Enter to accept.

Note: The Spa Timer gives you the ability to automatically switch your system into Spa Mode (including heating) for a set duration of time every day. This would allow a person to come home from work every day to a hot Spa.

The Spa Timer can also be used as an additional filtration time (no heating) for the Spa only. This could be very useful to a system where the Pool and the Spa are 2 separate bodies of water (ie no overflow from the Spa into the Pool).

If you select OFF, the controller will move onto the next option. If you select ON the controller will display:

SPA 00.00
TIMER 00.00

A cursor will be flashing on the hours portion of the top line.

6.5
SPA
CONTINUED

Use the ↑ or ↓ buttons to adjust the starting time that you would like the Aquatek to start running your system in Spa Mode, first selecting the start times hours [in 24hr time], press Enter and the cursor will move to allow adjustment of the minutes.

Once you have adjusted the Starting Time [hours and minutes] you will then be able to adjust the Finishing Time. This is the time that the Aquatek will take your system out of running in Spa Mode and return it running in Pool Mode.

When you have entered the finish time, the controller will display:

SPA HEATING	ON
TIMER	OFF

Use the ↑ or ↓ buttons to highlight either ON or OFF. Press Enter to accept.

If you would like your Spa to be heating during the set time then you would select ON.

If you would like the timer to be utilised as a Spa filtration timer [no heating], then you would select OFF.

The controller will display:

SPA	ON
TIMER 2	OFF

You will have the ability to set a second timer for the Spa. Set as per above.

Note: The second timer will only appear and be adjustable if Yes was selected for the first timer.

You can set one timer to be for Filtration purposes only and the second to include heating.

Once you have pressed Enter to select, the controller will the display:

SPA TIMEOUT:
04 HOURS

Use the ↑ or ↓ arrows to increase or decrease the hours in hourly increments. The range is OFF, 1 to 24hrs with 04 Hours being the default setting.

***This setting is here to ensure that the system will switch back over to filtration mode and to ensure that the spa isn't left running constantly. Especially useful if the property is being utilised as a rental or an Air bnb.*

Once the Spa Timeout hours have been selected the controller will return you to the Installer Setup menu.

6.6
HEAT
DEMAND

In this menu option you will be able to set the timeframe in which you would like your heater to run. When you enter the menu option, the controller will display:

HEAT ON
DEMAND OFF

If you select OFF, the controller will then exit you to the Installer Setup menu.

If you select ON, the controller will then display:

HEAT 06.00
DEMAND 22.00 [default times]

Use the ↑ or ↓ buttons and the Enter button to allocate a start and finish time. Once the time has been entered, the controller will then display:

SANITISER ON
 OFF

This Function is mainly for pool or spa systems that utilise a Dosing, or UV, or an Ozone system instead of an Ioniser or Chlorinator. If you are heating outside of filtration times you might as well let your sanitising system continue to measure, test, and dose your system while the pool or spa system is being heated.

*** If you are running an Ioniser or Chlorinator, you will be best leaving this function turned OFF, to stop the system being over Ionised or Chlorinated.*

Use the ↑ or ↓ arrows and press Enter to choose whether you would like sanitisation to occur while heating is active. This function is here to allow sanitisation to occur during heat demand times that are outside of normal filtration times.

Once you have selected the option you would like, the controller will then display:

SOLAR ON
PRIORITY OFF

***Note:** 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.*

Use the ↑ or ↓ arrows and press Enter to select the option you would like.

If you select Yes, the controller will then display:

MIN ROOF
TEMPERATURE 40°C

Use the ↑ or ↓ buttons to adjust the minimum roof temperature up or down to the point where you would like the Heat Pump or Gas Heating to shut off and the solar heating to take over the heating of the pool.

Once you have selected the option you would like, the controller will exit you to the Installer Setup menu.

If you have an **Expansion Plus** unit fitted and VF 2 allocated to a heating source, then you will have ability to set the same functions for the second heating source;

The controller will display;

HEAT 2 ON
DEMAND OFF

If you select On, you will be able to run through the same settings as above for the second heat source.

If you select No, the controller will exit you to the Installer Setup Menu.

6.7 PUMP CALL

The PUMP CALL option can be used for a Heat Pump telling the Aquatek system to turn the pump on for heating purposes.

Alternatively, a **voltage free switch** [ie; Spa Side Switch] can be connected to the Pump Call plug at the base of the Master Controller to turn on selected Appliances when the switch is turned On.

When you enter this menu option, the controller will display:

```
PUMP      ON
CALL      OFF
```

Use the ↑ or ↓ arrows and press Enter to select the option you would like.

If you select OFF, the controller will return you to the Installer Setup menu.

If you select ON, the controller will then display:

```
PUMP CALL RUN
TIME:      00 MINS
```

Use the ↑ or ↓ buttons to adjust the length of time that you would like the Pump Call function to run for, and press Enter. If you just want to turn the functions On & Off manually, leave the Run Time as 00 Mins.

Once you press Enter [if a Multi Speed pump is installed] the following will be displayed:

```
PUMP CALL
SPEED X
```

Use the ↑ or ↓ buttons to select which pre-set speed you would like, and press Enter. The controller will then display:

```
PUMP CALL FOR
APPLIANCE X   YES
```

Use the ↑ or ↓ buttons to select Yes or No for the displayed Appliance to be turned on via the voltage freed switch, and press Enter.

Once you press Enter, the controller will then display the next Appliance listed. Again, use the ↑ or ↓ buttons to select Yes or No for the displayed, and press Enter.

Multiple Appliances can be selected to activate via a single switch [eg; Blower & Jet Pump]

Note: There will be a 5 second delay between multiple Appliances being switched on.

SPA MODE

Another option you can select is to activate SPA MODE with a voltage free switch, ie; a Spa Side switch or a voltage free switch mounted on a wall positioned away from the Spa.

Once the switch is triggered, the controller will run through all of it normal processes to activate SPA MODE the same way as if you had pressed the SPA button on the front of the controller or the SPA MODE button on the home screen of the App.

All SPA MODE functions will activate as per what has been set up for SPA MODE including turning on Blowers, Jet Pumps and the Spa Timeout, if they have been allocated too.

This function can be utilised on Rental or Airbnb properties or on any system where access to the App is wanted or required.

6.7
PUMP
CALL
CONTINUED

When you have gone through all the Appliances that are installed/connected to the Aquatek system and selected Yes or No for the final Appliance, the controller will return you to the Installer Setup menu.

Note: *There may also be other situations where this function can be utilised. An example of this would be if a pool has an overflow trough, wet edge, negative edge, etc, where pool water needs to be pumped back into the main system.*

This can be done by plugging a float level switch (purchased separately) into the pump call port beneath the controller. When the float rises/drops to a set point, it will turn the filtration pump on to start pumping water back into the pool/spa system.

There may be other situations where this feature can be utilised to turn the pump on.

Note: *Any Heater or Switch connected to the Pump Call port at the base of the Aquatek Master Controller, must be a **Voltage Free Circuit**.*

Note: *If the heater's Heat Demand circuit is 240Vac, an external relay [KIT11] can be purchased separately and is to be **fitted by a licensed electrician**.*

6.8
WATER
FEATURE

It is under this menu option that you will be able to set what type of water feature you have installed. When you enter the Water Feature menu, the controller will display:

WATER FEATURE

1. NONE

The other options are:

2. PUMP

3. VALVE

4. PUMP & VALVE

***Note:** Options 2 and 3 will only appear if a socket or a valve has been allocated for a Water Feature in 6.1, Appliances menu.*

***Note:** Option 4 will only appear if a Socket & a Valve have been allocated for a Water Feature in 6.1, Appliances menu.*

If neither have been allocated, then you will not be able to set a type in this menu option.

***Note:** Option 4 is for an independent Water Feature pump with a valve to stop drain down.*

Use the ↑ or ↓ buttons to scroll through the options available and press Enter to accept the option you wish to set.

If you select 2. PUMP, the controller will accept and return to the Installer Setup menu.

If you select 3. VALVE, the controller will then display:

WATER FEATURE

SPEED 1

You are being asked to select a filter pump speed while the system is running the Water Feature. [If multi speed filter pump is used]

Use the ↑ or ↓ buttons to select which pre-set speed you would like, and press Enter. When you select a pump speed, the controller will return to the Installer Setup menu.

6.9 TEMPERATURE SENSOR

In this menu option, you're able to decide which sensor port gets allocated to which type of sensor, Pool or Roof or Water.

When you enter the menu, the controller will display:

TEMPERATURE
SENSOR 1.

Use the ↑ or ↓ buttons to scroll between SENSOR 1. 2. And 3. Press Enter when the sensor you want to change is displayed.

When you press Enter the controller will display:

SENSOR 1 or 2 or 3 TYPE
NOT USED

Using the ↑ or ↓ buttons, you have the option to select, NOT USED, POOL, ROOF & WATER.

Scroll up or down to select the option you want, and press Enter to accept.
Repeat to change the other Sensor type.

When you choose a Sensor to be a Pool Sensor the controller will display:

SENSOR 1 or 2 OFFSET
0.0

This option allows you to adjust the offset temperature of the pool sensor in a range of -5.0° to 5.0°, in .5° increments. Default is 0.0°.

Note: The controller will not allow both the sensor types to be the same.

Note: Sensor Type Water will only be selectable if an Expansion Plus is fitted to the system.

If you chose SENSOR 1. To be a Pool Sensor, then you will only be allowed to select between Roof, and Not Used for SENSOR 2.

**6.10
EXPANSION
UNIT**

Initial Installation.

When you initially install the Master Controller with either 1 or 2 Expansion Units, **DO NOT TURN THE POWER ON TO ALL 3 UNITS AT ONCE.**

Once the Master Controller has started, turn the power on for the Expansion Unit that will be allocated as Unit 1.

Allow a period of about 10seconds to pass before you turn the power on for the Expansion Unit that will be allocated as Unit 2.

In the first 2 minutes after startup, the Master Controller will scan to see if any Expansion Units are connected and will automatically assign them.

Note 1: *If you don't leave a time period between turning the Expansion Units on, you may end up with Expansion Unit 2 being assigned as Unit 1.*

Note 2: *If you don't have a second Expansion Unit the time frame doesn't matter.*

You will still need to enter 6.10 Expansion Unit menu function in order to increase the amount of Expansion Units that can have Appliances allocated to it.

The process is described below.

Secondary Installation.

If at a later stage you add an Expansion Unit, [whether first or second] you need to ensure that the signal cable is connected [as per diagram on page 4]. Once the signal cable is connected, plug the Expansion Unit into a power point and turn it on.

The Master Controller will detect that the Expansion Unit is there and assign it to either EXP:1 [if first unit] or EXP:2 [if second unit] and will be displayed as below.

Enter 6.10 Expansion Unit menu function to increase the amount of Expansion Units that can have Appliances allocated to it. The process is detailed below.

When you first enter this menu option the controller will display whether any expansion units are configured and which version if so. For example:

EXP:1 1.00B03 * or 1.01B01# if an Expansion Plus is connected]
EXP:2 NONE

Note: *A blinking dot in the top right-hand corner of the LCD screen, indicating that auto-configuration is in progress.*

Pressing the Enter button will move you into the next option which is to choose how many expansion units can have Appliances allocated to it. This is displayed as:

NUMBER EXP
UNITS 0

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.

If none [0] is selected, the controller will return you to the Installer Setup menu and you will be unable to allocate any Appliances beyond Sockets 1 & 2.

If 1 or 2 is selected, the controller will display a message to reset all addresses:

RESET ALL
ADDRESSES NO

If you DON'T want to reset the Expansion Unit address, press Enter and the controller will return you to the Installer Setup menu.

Note: *You will only need to reset the Expansion Unit address if you want to change Units 1 and 2 around or if an Expansion Unit is being added to the system after.*

**6.10
EXPANSION
UNIT
CONTINUED**

If you DO want to reset the Expansion Unit address, use the ↑ or ↓ buttons to change the NO to YES, press Enter. Once you press the Enter button the controller will display:

```
EXP UNITS  
RESET ADDRESSES. . . .
```

Before then displaying

```
EXP UNITS  
RESET DONE !
```

Press Enter and the Following will be displayed:

```
SCAN FOR EXP  
UNITS NOW? NO
```

Make sure that the Expansion Unit/s are turned off at the power.

Use the ↑ or ↓ buttons to change the NO to a YES, press the Enter button to scan for Expansion Units. Turn the power onto the first Expansion Unit, when the controller connects to it, turn the power onto the second unit [if fitted].

Note: You will only need to scan for Expansion Units if you have Reset the Expansion Unit addresses. Use the **Reset** function if having difficulty connecting Expansion Units.

If you select NO the controller will move you onto the next option.

```
AQUACHEM
```

```
V1.00B07 [If already received, otherwise this line will be blank]
```

- If you don't have an Aquachem installed, you can press the Menu button to exit this menu option.
- If the version number is already displayed, then the Aquachem is now active to be utilised through the App [go to page???? Of this guide] and you can exit the menu by pressing the Menu button, or if you need to reset the Aquachem unit press Enter and see below for further instructions.
- If the lower line was blank, press Enter and the controller will display:

```
RESET
```

```
AQUACHEM NO
```

- If you would like to Reset the Aquachem or install another unit, use the ↑ or ↓ buttons to change from NO to YES and press Enter. The controller will then display that the "Reset Done", press Enter to move to the next function.
- If you are setting up the Aquachem for the first time, make sure the controller has NO displayed and press Enter. The controller will display:

```
SCAN AQUACHEM
```

```
NOW NO
```

- If you don't want to scan for an Aquachem, make sure the controller is displaying NO and press Enter and the controller will exit you to the Installer Menu.
- If you have Reset the Aquachem or are setting it up for the first time you will use the ↑ or ↓ buttons to change from NO to YES and press Enter. After a few seconds of searching, the controller will then display:

```
AQUACHEM
```

```
V1.00B07
```

Once it does, the Aquachem is now active and can be utilised through the App and you can exit the Expansion menu by pressing the Menu button on the controller.

The controller will return you to the Installer Setup Menu.

6.11
SET
TIME

When you first set up the controller, it is in this this menu option, that you are able to set the time. When you enter this menu option the controller will display:

AUTO SET
TIME? YES

Use the ↑ or ↓ buttons to alternate between YES or NO. Press Enter to accept.

If you select Yes, the controller will ask for your location and display:

LOCATION
ACT

Use the ↑ or ↓ buttons to scroll through the options available and press Enter to accept the option you wish to set. The controller will then display:

AUTO ADJUST
DST YES

The controller is asking if you would like its time clock to be automatically adjusted at **Day Light Savings** time.

Use the ↑ or ↓ buttons to alternate between YES or NO. Press Enter to accept.

Once you have pressed Enter to select either option, the controller will return you to the Installer Setup menu.

Once the time is set, the controller will automatically update from internet time when the controller connects to Wifi.

If you selected NO at the AUTO SET option, you will then be able to set the time manually.

When you enter this menu, the controller will display:

SET TIME
XX.XX

Use the ↑ or ↓ buttons to scroll through the hours and press Enter when correct hour time is displayed.

Once you press Enter, you will then be able to adjust the minutes as above.

When you press Enter to accept the minutes, the controller will return you to the Installer Setup menu.

Note: Controller time is set in 24hr time, 6pm is 18.00.

1. Phone Connection Method

1.1 Watch the video for this connection method.

Scan this QR code for the video link.



1.2

- Download the Aquatek App from the App Store.
- Launch QR code Scanner.
- Press OK and allow Aquatek to take pictures and video. The QR code is usually found on the back of the controller and on the front of this Installation Guide.
- Navigate to the Aquatek APP Main Menu.
- Go to Device.
- Go to Wi-Fi Set up.
- If controller is now powered, click next.
- If the controller is not powered on, turn on the power to the controller, take note of the version number on the controller screen. This will be needed later in the setup, click next.
- Ensure the home Wi-Fi is turned on and within range of the controller. The Wi-Fi indicator will flash when ready.
- Tap Next and ensure that Wi-Fi is enabled on the device you are using. This can be checked by going to the Wi-Fi settings.
- Tap Next and choose the relevant version number for the controller. This can be found upon power up as well as the package box the controller arrived in.
- Tap join and this will prompt your device to connect to the Wi-Fi network.
- Tap Allow.
- Choose the correct network and enter the password.
- Tap Done and the controller will now attempt to connect. This can take up to 30 seconds.
- A tick will appear when it has successfully connected.
- Ensure that the controller shows the Wi-Fi network that it is connected to, on its LCD display.
- Tap Finished.
- The Wi-Fi has now been successfully connected.

Note: If connection to Wi-Fi using this method isn't successful, proceed to using connection method

2. App Connection Method

2.1 If you select **APP (2.4Ghz band width only)**, follow the following step in the table below. You will have 3 minutes to complete the connection before the timer runs out and you will need to start again. A 3 Minute count down timer is displayed on the controller screen during this time.

Note: You will need to ensure that the modem (that the Aquatek controller is being connected too), is only running on 2.4Ghz band width only.

Note: The Manual connection method is the best option if you are connecting to a Dual Band network (ie; 2.4Ghz + 5Ghz).

6.12 WIFI CONTINUED

With the Aquatek App downloaded to your phone and the Aquatek controller powered on, open the menu in the App.

Tap on the menu option Device.

This will in turn, open another menu screen.



Tap on Wi-Fi Connection 'Setup'.



6.12
WIFI
CONTINUED

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.

Press either proceed or confirm.

Note: If the customers Wi-Fi network isn't displayed in this window, then it will mean that the controller is picking up the Wi-Fi network in a 5GHz band width, and the connection process via the App won't work.

On an Android phone you will see the following message in this instance.

You will need to utilise the 3. Manual Connection Method, or you can try walking further away from the controller and the modem until the Wi-Fi network is displayed.

The controller will display 'Wi-Fi connected' and the name of the network when the connection is completed.



3. Manual Connection Method

3.1 If you select **Manual**, the controller will automatically start searching for nearby Wifi networks.

3.2 Wait for about 20 seconds before using the ↑ or ↓ buttons to scroll through the Wifi networks found, to find the network you wish to connect too. Before you press Enter to accept the appropriate network, **please read the following instructions on how to enter the password.**

-Pressing the “Spa” button will allow you too choose between lowercase letters, uppercase letters, numerals or symbols.

You will need to press the Spa button to alter the character type each time, ie press the Spa button to change from lower case to upper case letters, Spa button again to change from upper case letters to numbers, Spa button again to change from numbers to symbols and Spa button again to change back to lower case.

This menu option is used for setting up the WIFI connection to the controller and will only be used if you elected not to connect the controller to the Wifi network when the controller was first turned on or have changed Wifi network providers.

When you enter the menu option, the controller will display:

```
WIFI      ON
          OFF
```

If you select OFF, the controller will disable the use of the WIFI connectivity and return you to the Installer Setup menu.

If you select ON, the controller will display:

```
WIFI NETWORK
“NETWORK NAME”      XX%
```

The controller will display which Wifi network it is connected to, and the percentage of reception that the controller is receiving.

Note: *The controller will display the network that it is picking up the strongest signal from. This may not necessarily be the network required. If the controller is displaying the incorrect network, then proceed to the next step [Search Wifi Network].*

If the controller is not receiving reception from a modem, then no network name will be displayed.

Press the Enter button and the controller will display:

```
SEARCH WIFI      YES
NETWORK          NO
```

Use the ↑ or ↓ buttons to alternate between YES or NO. Press Enter to accept.

If the controller IS displaying the correct Wifi network, select NO and the controller will move you onto the next option – Reset Wifi Settings.

If the controller IS NOT displaying the correct network, select YES and the controller will display:

```
SEARCHING FOR
WIFI NETWORK.....
```

6.12
WIFI
CONTINUED

6.12
WIFI
CONTINUED

As an Example, Password is Hjt12! the process will look like this;
Press Enter to accept Wifi Network, when Enter Password is displayed,
Press the Spa button once, "A" will be displayed, then keep pressing the ↑ arrow button until "H" is displayed, let the cursor move across to the next empty space, press the Spa button 3 times to display a lower case "a", keep pressing the ↑ arrow button until "j" is displayed, let the cursor move across to the next empty space, keep pressing the ↓ arrow button until "t" is displayed, let the cursor move across to the next empty space, press the Spa button 2 times to display the number "0", press the ↑ arrow button until "1" is displayed, let the cursor move across to the next empty space, keep pressing the ↑ arrow button until "2" is displayed, let the cursor move across to the next empty space, press the Spa button once to display the "#" symbol, keep pressing the ↑ arrow button until "!" is displayed, let the cursor move across to the next empty space, and press the Enter button to accept the password.

Note: *At any stage through this process, if you insert an in-correct character and the cursor has moved across, you can press the back button on the controller to move back to that previous character. Use the ↑ or ↓ arrow buttons to change the in-correct character to the correct character, then allow the cursor to move across to the next empty space and continue entering the remainder of the password.*

Only once the entire password has been entered, allow the cursor to move across to the next empty space and then press Enter.

The controller will display:

CONNECTING TO *
"NETWORK NAME"

The blinking dot in the top right corner of the screen is an indication that connection is in progress.

If the password is **incorrect** the controller will display:

WIFI PASSWORD
INCORRECT

You will need to enter the password in again correctly.

If connection is successful, the controller will display:

CONNECTED TO
"NETWORK NAME" ▼

The small downward facing arrow indicates that the controller is connected to the Wifi and is positioned above the Wifi wording on the face label.

Note: *If connecting to an **Open** Wifi Network, simply press Enter when the controller displays ENTER PASSWORD.*

Once the controller is connected, the controller will then display:

SETUP EXP UNITS NOW?

NO.....Follow the process in the Installation & Setup Guide, or see pages 50 & 51 of this manual.

Re-setting Wifi connection (Change of Wifi network or Modem)

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 below process.

1. Press the “Menu” button until the controller displays “1. Filter Times”.
2. Use the ↑ or ↓ arrows to locate “6. Installer Menu”. Press “Enter”.
3. The controller will display “6-1 Appliances”.
4. Use the ↑ or ↓ 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 ↑ or ↓ 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 ↑ or ↓ arrows to ensure that “No” is blinking. Press Enter.
10. The controller will display “Reset Wifi Settings Yes No”
11. Use the ↑ or ↓ arrows to ensure that “Yes” is blinking. Press Enter.
12. The controller will display that the Wifi settings have been reset and that the controller is re-starting.
13. The controller will restart itself, and will then display “SETUP WIFI YES”.
14. From here you can choose whichever option you want to connect the controller to your new Wifi network, using either; 1. Phone Connection Method, 2. App Connection Method or 3. Manual Connection Method as described on pages 55-59.

Notes:

- *Restarting the controller is a good option if your controller wasn't able to detect a Wifi network. Restarting the controller will enable the controller to detect Wifi networks in the surrounding area. Turn the controller off for 15 seconds before restarting it.*
- *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]. You may benefit from a Wi-Fi extender being installed. Preferably mount the extender close to where the controller is mounted...*
- *Situations where you may want to restart the controller is if the controller has lost complete connection [controller not displaying Wifi network name] with the Wifi network, was unable to detect a Wifi network to start with, if you have changed the Wifi network name or changed providers, if you have Reset the Wifi Settings, or if during the process of setting up the Wifi connection the Wifi indicator has stopped blinking.*
- *If the Aquatek is mounted in a bunker below ground level or inside a shed/Filter Box, there may also be reception issues. The controller may need to be optioned with either a 1M [KIT07] or 5M [KIT08] antenna extension kit [both available separately].*

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.

6.13
CHEMICAL
BALANCE

This menu option is used for setting up the Aquachem connection to the controller. When you enter the menu option, the controller will display:

pH SENSOR YES
CONNECTED NO

This option is asking you if you have the pH probe installed into your system.

Use the ↑ or ↓ buttons to alternate between YES or NO. Press Enter to accept.

If you select No, the controller will move you onto an ORP option.

If you select YES the controller will then display:

pH OFFSET
0.0

The Offset is the number of points [in differences of .1] the controller will display above or below what the pH probe is actually reading. You would normally adjust the Offset if you have had your pool water tested and the probe is reading slightly differently to what the test reading is, ie; the Aquachem is reading pH as 7.5 but the test result was 7.4. You would adjust the Offset down to -0.1.

Note: If the difference between the readings is significant, get another test done to authenticate the first test and the probe may need to be cleaned. Follow the cleaning procedure as outlined in the Aquachem manual. Regular cleaning of the probe is recommended.

Use the ↑ or ↓ buttons to increase or decrease the Offset. Press Enter to accept.

The controller will then display:

pH SET POINT
7.5

The pH Set Point is the pH level that you want the pool to be at.

Note: Acid will only be dosed if the pH level is above the Set Point.

Use the ↑ or ↓ buttons to increase or decrease the Set Point to the appropriate level that you desire. Press Enter to accept.

The next option that the controller will display is:

ORP SENSOR YES
CONNECTED NO

This option is asking you if you have the ORP probe installed into your system.

Use the ↑ or ↓ buttons to alternate between YES or NO. Press Enter to accept.

If you select No, the controller will move you onto a Dosing option.

If you select YES the controller will then display:

ORP OFFSET
0.0

The Offset is the number of points [in differences of 10] the controller will display above or below what the ORP probe is actually reading. You would normally adjust the Offset if you have had your pool water tested and the probe is reading slightly differently to what the test reading is, ie; the Aquachem is reading ORP as 700 but the test result was 670. You would adjust the Offset down to -30.

Note: If the difference between the readings is significant, get another test done to authenticate the first test and the probe may need to be cleaned. Follow the cleaning procedure as outlined in the Aquachem manual. Regular cleaning of the probe is recommended.

Use the ↑ or ↓ buttons to increase or decrease the Offset. Press Enter to accept.

The controller will then display:

ORP SET POINT
700

The pH Set Point is the pH level that you want the pool to be at.

Use the ↑ or ↓ buttons to increase or decrease the Set Point to the appropriate level that you desire. Press Enter to accept.

The next option that the controller will display is:

DOSING
1. OFF

This option is for indicating which dosing pump/s are to be utilised.

Use the ↑ or ↓ buttons to alternate between the different options. Press Enter to accept.

1. OFF indicates that no dosing will be done through the peristaltic pump/s. This option can be used if maintenance work is being done on the peristaltic pump eg squeeze tube is being replaced, or the peristaltic pump needs to be turned off for any other reason.

2. ACID indicates that dosing using the peristaltic pump on the side of the Aquachem will be utilised for dosing acid and maintaining the pH level that has been set.

3. ACID & CHLORINE indicates that 2 peristaltic pumps will be utilised to maintain both pH levels and ORP levels [using liquid chlorine].

Note: The Aquachem *may* be optioned with 2 peristaltic pumps in the future. Currently this option will only be utilised for systems that already have peristaltic pump for liquid Chlorine already installed with its own power source.

Once you have selected Enter to accept the option that best suits, the controller will display:

PROBE ON
SETTLE TIME OFF

If you select ON for this option, the Aquachem will wait for the first 30 minutes of the system running before it administers the first dose.

If you select OFF for this option, the Aquachem will administer the first dose after the system has finished priming and completed its temperature check [about 5 minutes after the pump starts].

Use the ↑ or ↓ buttons to alternate between the different options. Press Enter to accept.

6.13
CHEMICAL
BALANCE
CONTINUED

The controller will then display:

POOL SIZE
50000

Use the ↑ or ↓ buttons to increase or decrease the pool size to meet the size of your pool.

Note: If the size of your pool is in-between 2 pool sizes, select the size that is closet. For example; choose the Pool Size of 55,000L if your actual pool size is 53,500L.

Press Enter to accept.

The controller will then display:

Note: This will only be displayed if the Spa was set to the ON position in 6.5 SPA.

SPA SIZE
2000

Use the ↑ or ↓ buttons to increase or decrease the Spa size to meet the size of your Spa.

Note: If the size of your spa is in-between 2 spa sizes, select the size that is closet. For example; choose the Spa Size of 2000L if your actual spa size is 1800L.

Press Enter to accept.

When you press Enter to accept the Spa size, the controller will return you to the Installer Setup menu.

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 fault is detected the controller will display 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 be kept for up to 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 9.9Amps / 2370 Watts or 14.9Amps / 3570Watts as described on the unit.
6. Degree of protection against moisture: IP33.
7. Store pool chemicals safely, at least 3 metres away from all pool equipment.
8. If the Aquatek won't connect to Wifi or connection is un-reliable, there may be an issue with reception from the modem. It might be necessary to install a Wifi range extender at the controller's mounted location.
9. If the Aquatek is mounted in a bunker below ground level or inside a shed, it would be advisable to attach an antennae extension. These are available to be purchased separately in 1M or 5M lengths.
10. Always check with Heater manufacturer for correct interlocking procedure and connection location.

*Note: If the heater's flow, pressure switch, or connection circuit is 240Vac, an external relay [KIT10 which can be purchased separately], is to be **connected by a licensed electrician**.*

11. **The Aquatek system cannot be integrated or connected through/with any other Home Automation systems. It is a stand-alone system.**

**NOTES
CONTINUED:
SYSTEM
SETUP
PROFORMA**

SYSTEM 1		AMPS	APPLIANCE SETUP	RE-NAME AS
MASTER				
SOCKET 1				
SOCKET 2				
TOTAL AMPS				
EXP 1 - 10A OR 15A				
SOCKET 3				
SOCKET 4				
SOCKET 5				
TOTAL AMPS				
EXP 2 - 10A OR 15A				
SOCKET 6				
SOCKET 7				
SOCKET 8				
TOTAL AMPS				
VALVE 1				
VALVE 2				
VALVE 3				
VALVE 4				
VF CONTACT 1				
VF CONTACT 2				
Note 1: The Master controller can only have a maximum of 10Amps worth of Appliance load run through it across both sockets.				
Note 2: A 10Amp Expansion unit can only have up to a maximum of 10Amps worth of appliance load run through it across the 3 sockets.				
Note 3: A 15Amp Expansion unit can only have up to a maximum of 15Amps worth of appliance load run through it across the 3 sockets.				
Note 4: VF Contact 2 will only appear in the Appliance Setup if you have an Expansion Plus connected.				

AQUACHEM



The AquaChem is designed to monitor and automatically adjust the pH and Chlorine [ORP] levels of all types of Pools & Spas while the filtration pump is running.

Once the pH and ORP levels have been set in the Aquatek App, the AquaChem will automatically dose Pool acid [when it is required] to maintain the set pH level. The AquaChem will also maintain the systems ORP by turning the Chlorinator On or Off to maintain the selected ORP level.

The AquaChem can be used as a **pH only** system or pH and ORP system.

EXPANSION PLUS UNITS 10Amp & 15 Amp



An Expansion Plus unit can be included on the Aquatek system [in replacement of a standard Expansion Unit] to allow for a second heater connection. Example: if you have a Gas Heater in your Filtration Line for your Spa and an Electric Heat Pump on an Independent Line to heat your Pool, the Expansion Plus Unit will allow both bodies of water to be heated independently.

The Expansion Units are INPUT rated at either 10Amps or 15Amps. All 3 sockets of the Expansion Unit are rated the same. 3 sockets at 10Amp Output.

15Amp EXPANSION UNIT with 15A output



A 15Amp Expansion unit can be ordered with a socket as a 15Amp output and another socket as a 10Amp output. This unit includes a re-settable fuse in case the unit gets overloaded. In this instance the Expansion Unit only has 2 outputs.

EXPANSION UNITS 10Amp & 15 Amp



The AQUATEK has the capacity to have an additional 2 expansion units connected to it. Each Expansion Unit has an additional 3, 240VAC Output sockets that are controlled via the AQUATEK controller. Up to an additional 6 power sockets can be utilised and controlled by the AQUATEK master controller.

The Expansion Units are INPUT rated at either 10Amps or 15Amps. All 3 sockets of the Expansion Unit are rated the same. 3 sockets at 10Amp Output. The 15Amp Expansion unit can be ordered with 1 socket at 15Amp output with the remaining 2 sockets at 10Amp output.

POWERDRIVE



The Powerdrive 5^v is designed to switch two 24Vac valve actuators (rated to 50VA) to the open or closed positions by utilising either an AC or DC signal (12-30V) or a voltage free signal.

Both valve actuators will be driven/turned at the same time.

AQUALIGHT



The Aqualight is a Wi-Fi based controller that is designed to enable Pool and or Spa Lights to be turned On and Off remotely and enables the user to change the colour of the lights, via a phone App.

Assorted brands of lights and transformers can be connected to the Aqualight and can be controlled independently.

Note: The Aqualight doesn't connect to the Aquatek controller at all. It is its own model of control system.

AQUATEK ADDITIONS

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. (Return to Base)
- Damage to the unit due to misuse, power surges, corrosion from pool chemical fumes, lightning strikes and 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.
- Valves and actuators are covered by a 12 month warranty at the discretion of their manufacturer.

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
