henden™
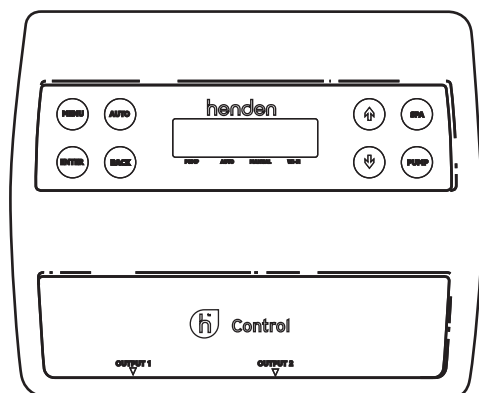
Control

INSTALLATION & OWNER'S MANUAL

CAUTIONS AND WARNINGS:

The Henden Control is not intended for use by young children or infirm persons without supervision. Please ensure that young children are supervised to ensure they do not play with the appliance.

Installation must be handled by a professional pool builder/service agent.

Repair and disposal must be carried out by manufacturer approved service personnel.

henden™

Contents

Control

INTRODUCTION

**Thank you for purchasing the
Henden Control.**

The Henden Control allows you to
effortlessly control pumps, heater, sanitiser,
valves, water features, spa equipment
and much more! Simply download the
Henden Control app to program, monitor
and control the pool from the palm of your
hands. It's pool automation made simple.

HELPFUL HINTS

> Install the Henden Control out of
  direct weather.
> To get the full benefits of the Henden
  Control ensure a strong 2.4ghz Wi-Fi
  signal at the install location.

SPECIFICATIONS

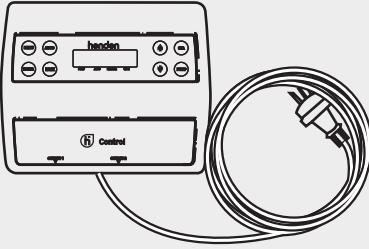|	ELECTRICAL CONNECTION	NUMBER OF POWER OUTLETS	MAXIMUM COMBINED LOADS
Henden Control	10a Plug	2x 10amp	9.9amp (2370w)
Henden Control 10amp Expansion Module	10a Plug	3x 10amp	9.9amp (2370w)
Henden Control 15amp Expansion Module	15a Plug	3x 10amp	14.9amp (3570w)

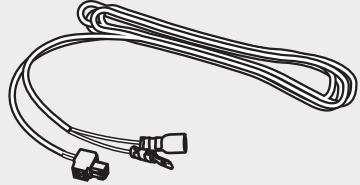*Please refer to each unit's rating label.
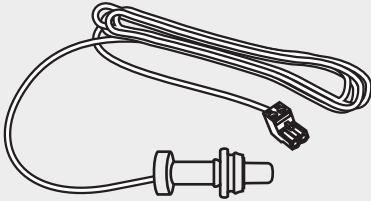
Dimension
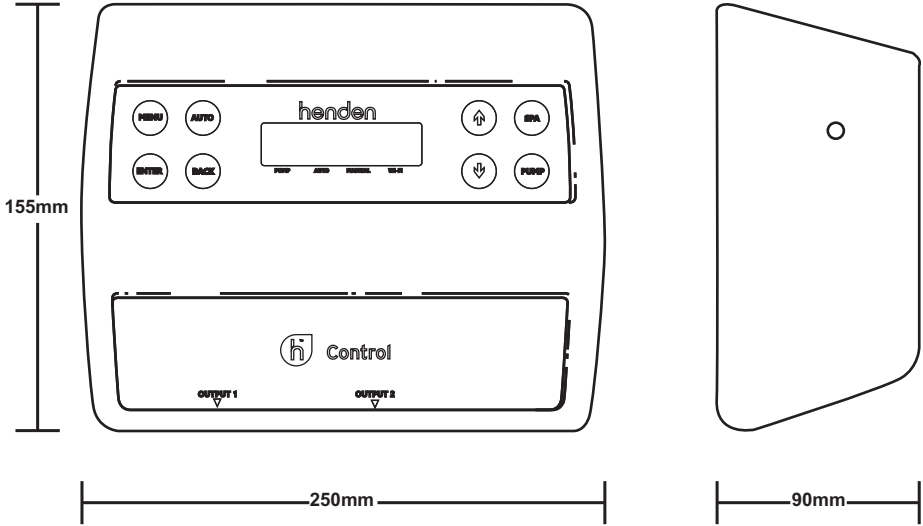
Henden Control

Interlock cable (Green Connector)

Temperature sensor (Blue Connector)

Wi-Fi Antenna

Mounting Screws & Plugs
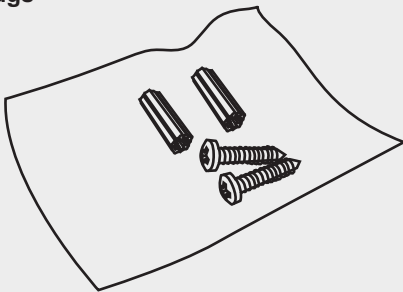
Quick Start Guide

INSTALLATION

Positioning the Henden Control and Henden Control Expansion Modules

1 Position the Henden Control/ Expansion Module at least 3m from the pool water's edge, and a minimum of 600mm above ground level.

>600mm   >3000mm
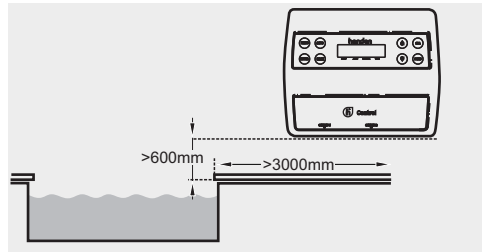
2 Use the screw and wall plug kit provided to mount the bracket to a solid structure with a flat surface. Align the screws with the mounting bracket and slide down to lock the Henden Control/ Expansion Module onto the bracket. Adjust the screws on the back of the Henden Control/ Expansion Module to ensure a snug fit.
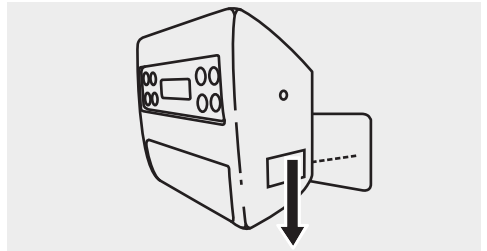
3 Connect the Wi-Fi antenna to the Henden Control. Do not use a tool to tighten the antenna.
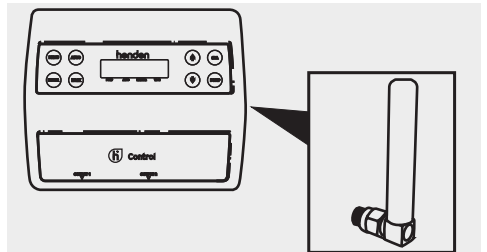
4 Ensure the Henden Control / Expansion Module is plugged directly into a general power outlet.
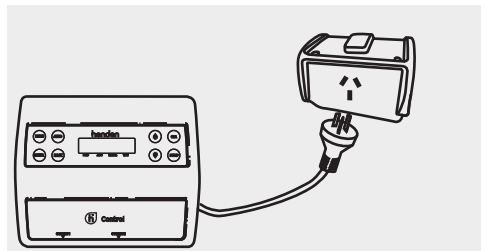
CONNECTING EQUIPMENT TO THE HENDEN CONTROL

1 Using the labels on the underside of the Henden Control as a guide, connect the supplied temperature sensor & required equipment.

Warning! The maximum combined load for both sockets on the Henden Control is 9.9 AMPS at 2380W.

Pump control via heater

VSD pump cable

Heater control cable

Expansion Unit connection

Temperature sensor 1 & 2

PUMP CONTROL 1

EXPANSION UNIT 1 1 2 3

PUMP CALL

HEATER INTERLOCK

SENSOR 1

SENSOR 2

VALVE ACTUATOR DRIVE 1 2 3 4

Power outlets 10a max combined

Valve actuators 1-4
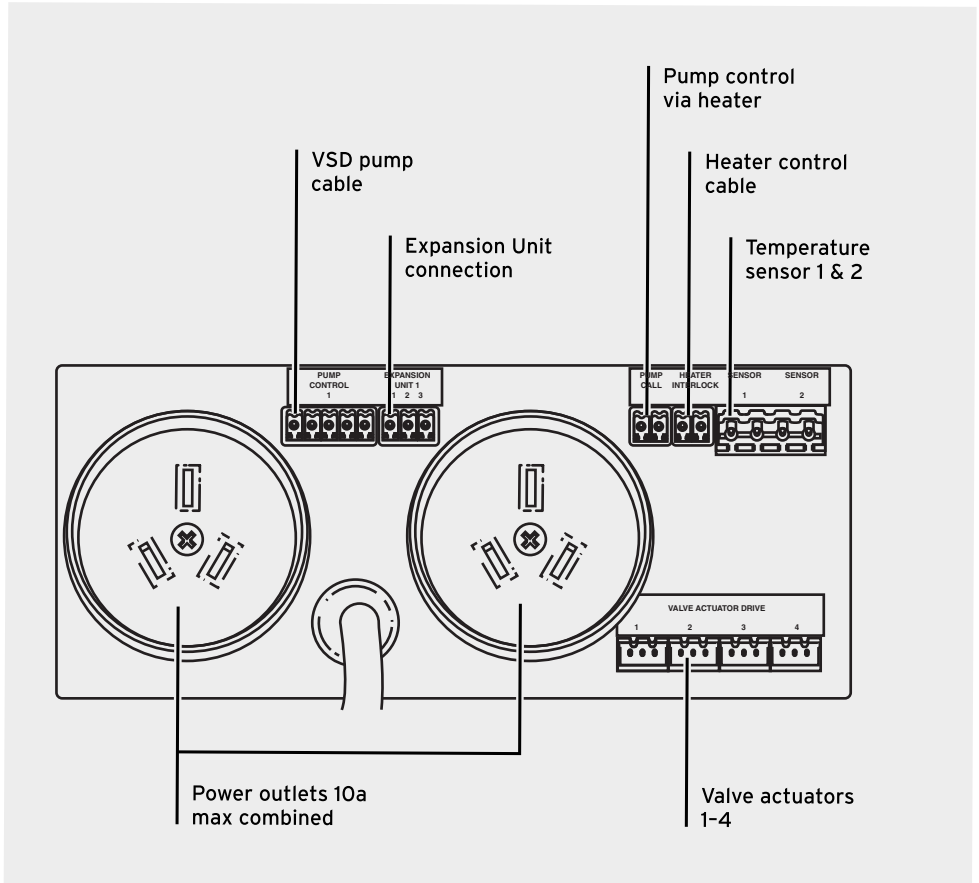
CONNECTING EQUIPMENT TO THE HENDEN CONTROL

Connecting a Pool Temperature Sensor

1 Position the pool sensor before the heat pump within the heating circuit and outside of direct sunlight.

Sensor Location
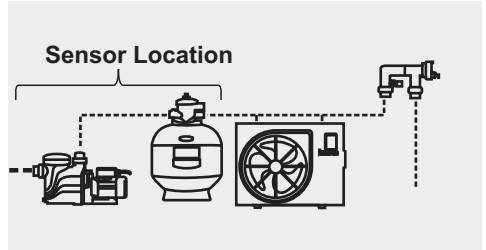
2 Drill a 14.5mm hole in the side of the PVC pipe. To minimise pipe shatter either use a grinding drill or create a small pilot hole, then use a 14mm drill-bit spinning in a counter-clockwise direction.

Handy Tip: Do not drill a hole on the top of the pipe.

Pilot Hole

14.5mm
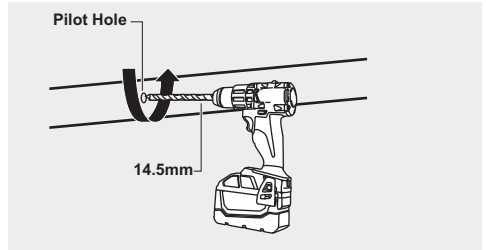
3 Insert the grommet into the pipe and gently push in the sensor until the barb passes through the grommet.
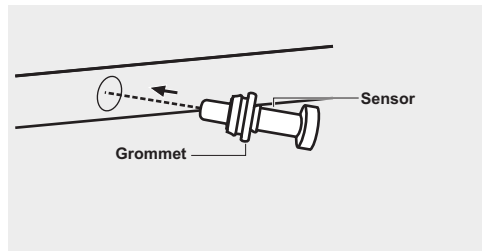
Handy Tip: To prevent extreme ambient conditions effecting the sensor, tie at least 30cm of the cable to the shaded side of the pipe.

Sensor

Grommet

4 Fit the blue sensor plug to either of the two sensor ports beneath the Henden Control.
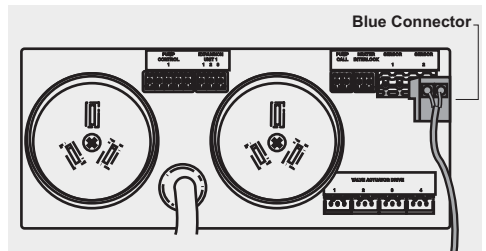
Blue Connector

CONNECTING EQUIPMENT TO THE HENDEN CONTROL

Connecting a Roof Temperature Sensor

1 Fit the roof sensor into a small piece of collector material away from the main collector but no more than 50cm from the roof gutter.

Handy Tip: If required, the roof sensor can be on a different roof as the solar collector if the alignment to the sun is similar to the solar collector.

Red Sensor Plug

2 Fit the red sensor plug to either of the two sensor ports located beneath the Henden Control.

Handy Tip: All excess cable must be removed. Coils of cable are not permitted under any circumstances and must not be tied to 240v wiring. If the cable is to be extended with non-genuine cable a size of 14/020 should be used.

Handy Tip: Any cable joins should be soldered first then use heat shrink to eliminate moisture ingress.

Note: For encapsulated collector panels, use the manufacturer's instructions for roof sensor placement.

Red Sensor Plug
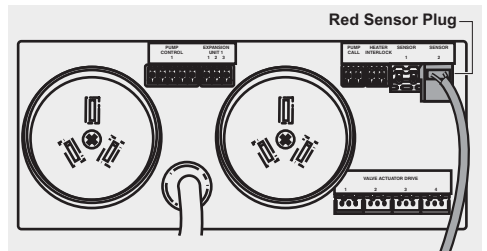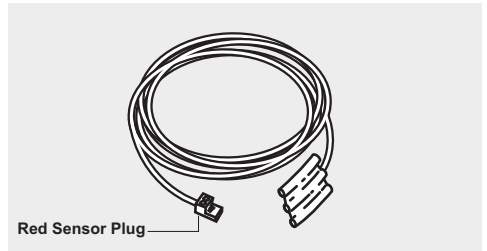
CONNECTING EQUIPMENT TO THE HENDEN CONTROL

Connecting Multi-speed Pump Communication Cable

Note: A communication cable is required to connect a multi speed pump to the Henden Control to enable pump speed/ flow control and power operation. VSD communication cables are sold separately.

1 Connect the communication cable to the 'pump control' terminal on the Henden Control, refer to your pump installation manual for the correct connection to the pump motor.

Handy Tip: Most multi speed pumps using a communication cable can controlled through this cable alone and be plugged into a constant 240v power supply. This removes the need for the Henden Control to power the pump using 'Socket 1 or 2'.

Communication Cable
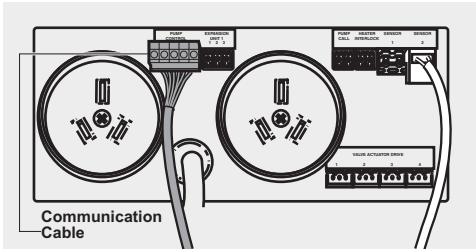
Connecting a Heater

WARNING: If the heater's flow or pressure switch circuit is 240V, an external relay (KIT10) is required and can be purchased separately, this connection is required to completed by a licensed electrician.

Handy Tip: The heater interlock is for extra low-voltage (MAX 24V at 1A) switching only.

1 Adjust the heater setpoint to the maximum to prevent limiting the temperature setpoint in the Henden Control.
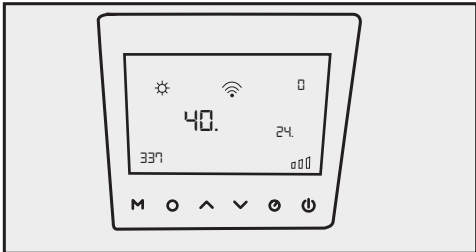
CONNECTING EQUIPMENT TO THE HENDEN CONTROL

2 Connect the terminated end of the interlock cable to the 'heater interlock' port on the Henden Control.
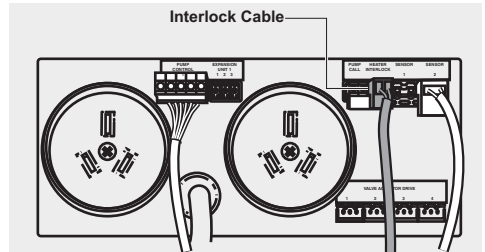
Interlock Cable

3 Connect the heater end of the interlock cable in series with the heater's external controller input, pressure, flow, or fireman's switch. Refer to your heater installation manual for the correct connection.
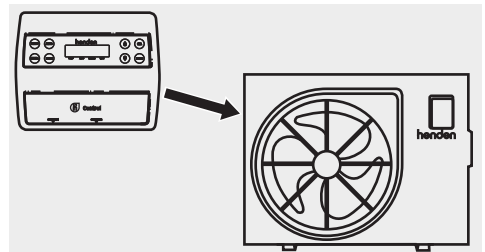
4 To allow the heater to control the filter pump, connect the heater interlock cable to the Henden Control socket labelled 'Pump Call'.

Heater Interlock Cable
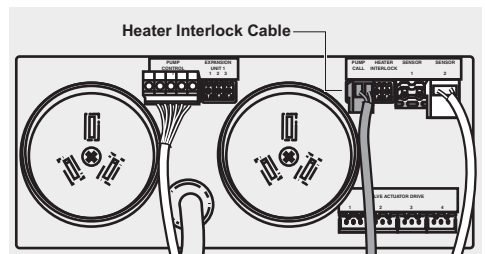
5 Connect the heater interlock cable from the Pump Call socket to the heater's connection point.

Note: Check with heater installation manual for correct Heat Demand interlocking procedure.
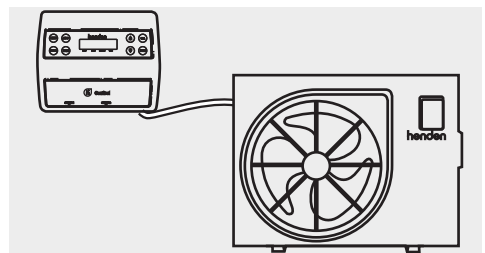
CONNECTING EQUIPMENT TO THE HENDEN CONTROL

Henden Control Expansion Module Connections

Expansion unit/s 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

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.

CONNECTING EQUIPMENT TO THE HENDEN CONTROL

1 To add a Henden Control expansion connect the communication cable from 'Expansion Unit 1' on the Henden Control to 'Exp In' on the Henden Control Expansion Module.

Communication Cable
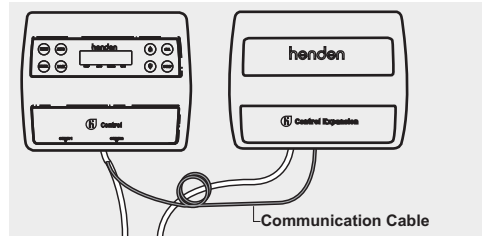
2 To add a second Henden Expansion module. Connect the Henden Control communication cable from the 'Exp Out' port on the first Expansion Module to the 'Exp In' port on the second Expansion Module.
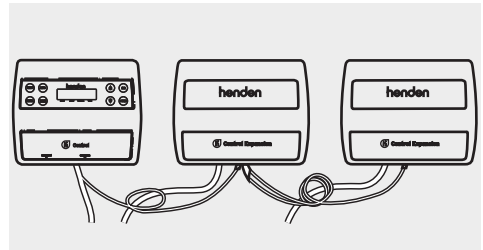
Connecting Valves

1 Connect the actuator power cable into any Valve Actuator socket on the Henden Control and note the valve actuator drive number.

Note: Refer to the valve instructions for mounting requirements, cam adjustments of the actuator on the valve. Maximum power for the Valve output is 24V.

Handy Tip: For Specialised Valve options refer to the Special Feature Valves Appendix on page 51.

Power Cable
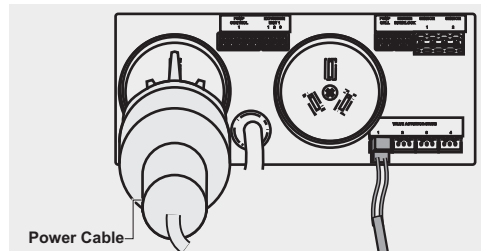
TYPICAL WIRING EXAMPLES

Example A: Pool/Spa Henden Control only using a Single Speed Pump
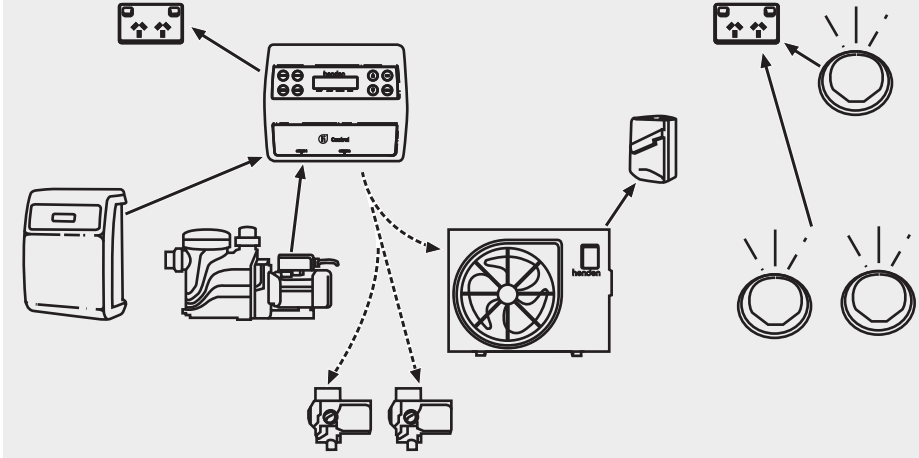
Example B: Pool/Spa Henden Control only using a Multi Speed Pump
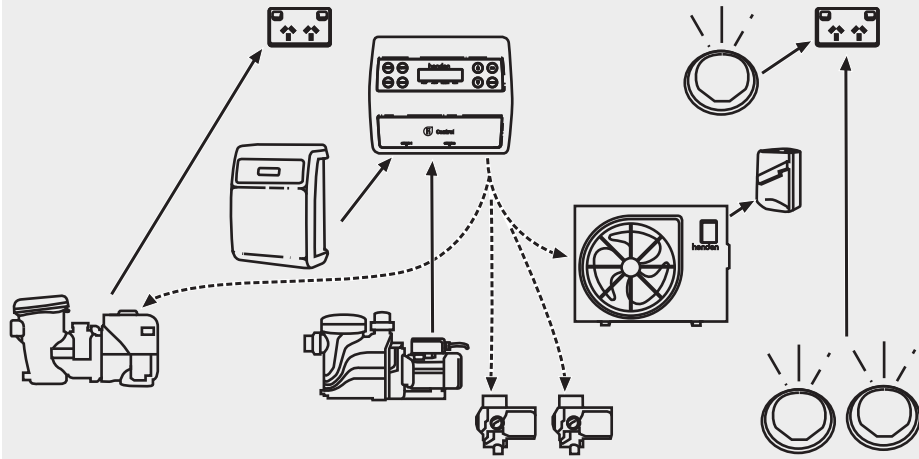
TYPICAL WIRING EXAMPLES

Example C: Pool/Spa Henden Control with a Henden Control Expansion using a Single Speed Pump
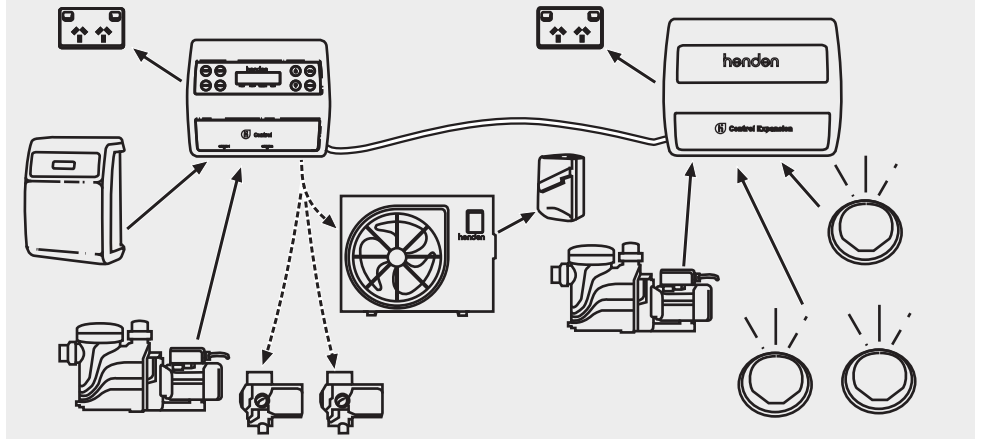
Example D: Pool/Spa Henden Control with a Henden Control Expansion using a Multi Speed Pump
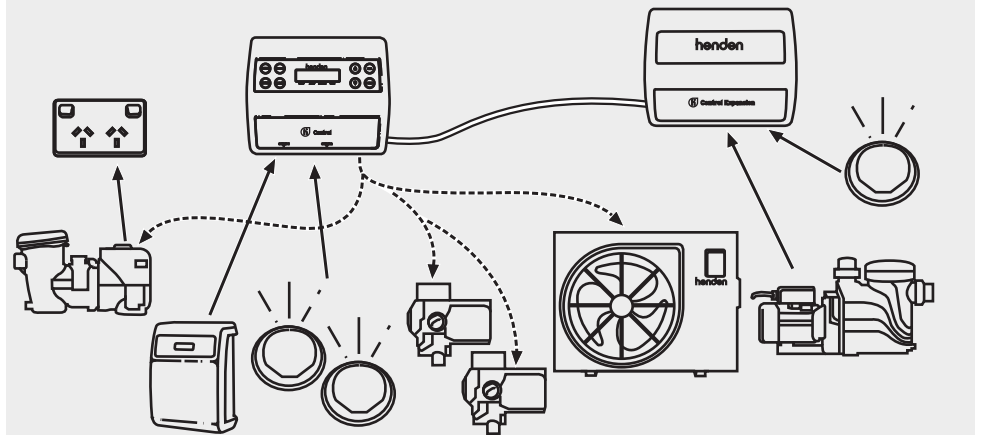
FIRST TIME START UP

Handy Tip: If no smart device or Wi-Fi connection is available, refer to page 26 for setup instructions using the Henden Control display.

1 Use the Henden Control App to begin the First time startup.

Menu

Refresh

Wi-Fi status:
Green = Connected
Yellow = Connection error
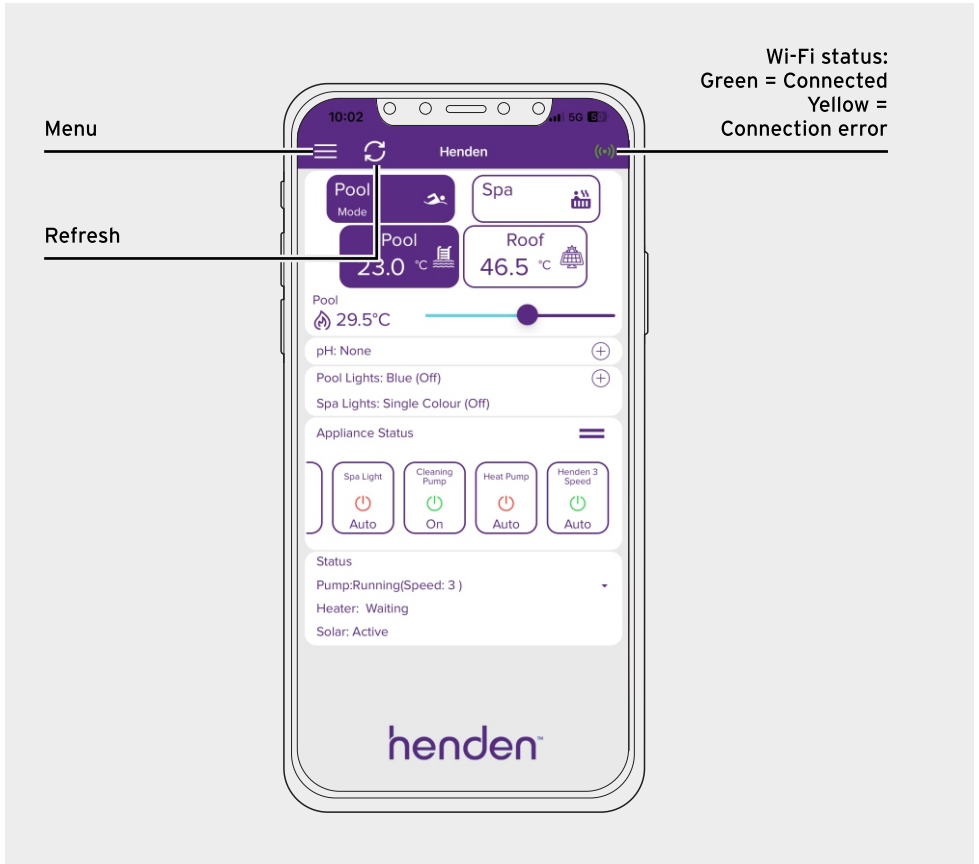
FIRST TIME START UP

Setup Wi-Fi Connection

1 Download the Henden Control app via the App store or Google Play.

2 Open the Menu, go to 'Device' and Launch the QR code scanner.

3 Allow access to camera.

4 Scan the QR code on back of the Henden Control.

5 In the app menu select 'Home>Device>Wi-Fi connection>Setup'.

6 Ensure the smart device is connected to the 2.4ghz Wi-Fi network you want the Henden Control to connect to.

7 Enter the Wi-Fi password and confirm.

Firmware Update

Handy Tip: Ensure that the Henden Control is running the latest version of software. If not, complete any available Firmware Updates

1 Enter the Henden Control app menu, tap on 'device' then 'view' located next to the device information.

2 If an update is available, you will see a "Update Available" box.

3 Tap on the box and wait for the system to finish the update. Do not change or alter anything while the update is in progress.

FIRST TIME START UP

Appliance Setup

1 Enter the Henden Control App menu and select 'Appliance setup'.

2 Use the drop-down selections for each 'Socket' to select the connected product.

3 Use the drop-down selections for each 'Valve' to select the required valve operation.

4 Use the drop-down selections for VF contact to select the Voltage Free connection type.

5 To rename any of the appliance click the pencil icon and enter a new name for the appliance.

Pump Setup

1 Enter the Henden Control App menu and select 'Pump setup'.

2 Select whether the filter pump is 'single speed' or 'multi speed'.

   a. If selecting 'multi speed' a drop-down will appear to select the model of the pump connected

   b. Select the default operating speed for the Multi speed pump.

Light Setup

1 Enter the Henden Control App menu and select 'Light setup'. Options will appear for any sockets you selected during 'appliance setup' as Pool Light or spa Light.

2 Select the brand of lights you have installed.

3 You will then have options on the home screen to directly control the colour of your lights.

FIRST TIME START UP

Chemical Setup

1 For Chemical Setup, refer to the Henden Balance installation guide.

Heater Setup

1 Enter the Henden Control App menu and select 'Heating Setup'.

2 Use the slider to activate any heater you selected during the 'appliance setup' process.

3 Henden recommends using the 'Cool Down' option especially for gas heaters to help protect pool equipment.

4 Select a 'Pump Speed' option to operate when the heater is on and a multi speed pump is connected.

5 Select whether you want the sanitizer to operate while the heater is 'ON'.

6 To set a heat demand timer go to the 'Timers' menu and use the 'Heat Demand' timer.

Spa Setup

1 Enter the Henden Control App 'Home' screen, use the slider to enable 'Spa mode'.

2 Select whether you want a Blower or Jet pump to activate in Spa Mode 'Always' or 'At Temperature'.

a. If selecting 'At Temperature' use the slider to set the ON temperature for the devices

3 Select whether you want the sanitizer to operate during Spa Mode

a. If operating in Spa Mode, use the slider to select the sanitiser ON time %.

FIRST TIME START UP

4 Select the pump speed to operate when in Spa Mode if a multi speed pump is connected.

5 Use the drop down to choose the Spa Timeout duration to automatically return to Pool Mode.

Filter Timers

1 In the Henden Control App menu select 'Filter Timers'.

2 Use the drop-down time options to set the Start and End times for each timer.

3 If a multi speed pump is connected, select the pump speed to run for each timer.

4 Use the slide to activate or deactivate each timer.

5 The 'Run Once' timer can be used to run the filtration system one time only.

WARNING: Avoid having timers overlap Start and End times.

Handy Tip: For continuous pump operation the Seton end one timer and start the next timer.

Temperature

1 In the Henden Control App menu select 'Temperature'.

2 Use the slider to set the setpoint for each added heater when activated.

Handy Tip: The 'Run Till Heated' option will keep the filtration system running until the setpoint is achieved. This is useful when commissioning heat pumps.

FIRST TIME START UP

Timers

1 In the Henden Control App menu, select 'Timers'. The 'Timers' menu will allow schedule timers for all non-filtration system devices on the Henden Control. This will also allow setting a 'Spa Mode' timer and 'run once' timers.

Sharing the App

1 Now the Henden Control is setup go to the Menu, open 'Device' and select 'Share' for the QR code. This can be shared or scanned by another smart device to automatically load the device and settings.

Complete

Congratulations the Henden Control is now setup and ready to use.

OPERATION
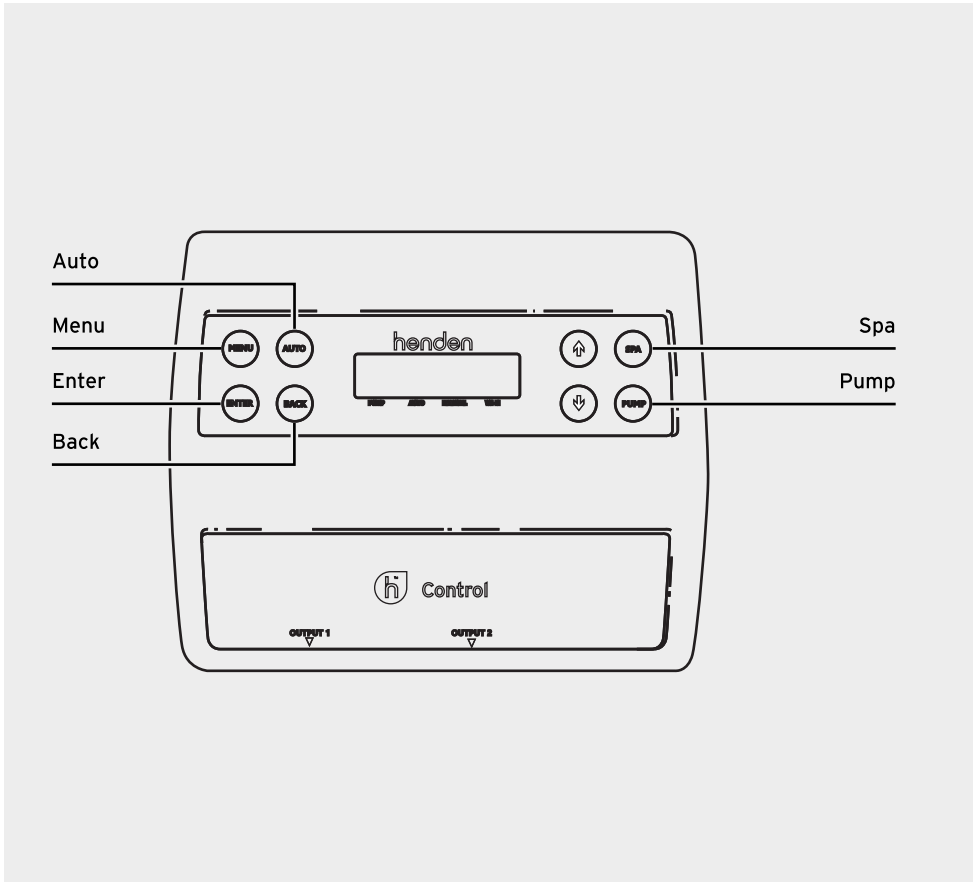
OPERATION

Interpreting the Henden Control Buttons

AUTO
> Pressing the AUTO button will run the Henden Control in automatic pool mode.
> 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 Henden Control will retrieve the previously saved settings. On power-up the Henden Control will start automatic pool operation.

BACK
> Pressing the BACK button will allow you to go back to previous menu options.

ENTER
> Pressing the ENTER button will turn on the LCD backlight.
> Pressing the ENTER button will accept the currently displayed setting option.

MENU
After pressing the MENU button, a range of options can be selected from and changed.

The selectable options in the MENU are as follows:

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

UP & DOWN
> The ↑ or ↓ buttons allow you to scroll through different functions and or settings in the menus, as well as increasing or decreasing temperature settings.

OPERATION

SPA

> The SPA button allows you to toggle between Pool and Spa modes.

> Pressing the SPA button will activate.

    a. The process of heating the spa to the spa temperature limit.

    b. The pool/spa valves will move to the spa and prime the pump if required.

    c. Heating will occur to the displayed set temperature.

> To return to automatic pool operations press the AUTO button or press the SPA button to return to automatic pool operations.

PUMP

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.

> Use the ↑ or ↓ 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.

> At any time during the count down, if you press the ENTER button, the timer will reset to the selected time, and start again.

> During the count down, if you press the PUMP button again, the Henden Control will return to automatic operation.

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

OPERATION

Interpreting the Henden Control App Menu Options

Control

The 'Control' menu allows for fast control over the added appliances to be set ON/OFF or in AUTO mode to run their respective timers.

Device

The 'Device' menu provides access to share the QR code to other smart devices.

1   Setup the Wi-Fi connection.

2   Hide or View the installation menu options within the App.

3   View 'Device Information' and naming of the Device.

4   Access the complete installation manual through the 'About' section.

5   Adjust for daylight savings and set the device location for Date and time accuracy.

Henden Control Menu Navigation

The menu system can be navigated using the ↑ or ↓ buttons. All selectable and changeable values will be displayed on the LCD screen. 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

OPERATION

Filter Timers

Sanitiser

1 Set any connected sanitiser to its 'Manual On' mode to allow operation 24 hours per day, as the Henden Control Filter Timers will determine the operating hours.

2 Refer to the Sanitiser instructions for 24hr timer setup, dosing, and mounting requirements.

3 You have the option to choose up to four different Filtration Times.

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

**FILTER ON
TIME 1 OFF**

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

**FILTER XX:XX
TIME 1 ON XX:X**

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

7 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**

8 Once you have selected the speed for the first filter cycle, the option second filter cycle will be displayed.

**FILTER ON
TIME 2 OFF**

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

10 Repeat the above steps for Filter Times 3 and 4.

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

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.

Temperature

Handy Tip: This temperature is the minimum temperature that you would like the Heater to heat the pool or spa to if a heater is utilised.

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

POOL
TEMPERATURE   27°c

Note: Range is OFF, 20°c - 40°c and adjusted in 1°c increments.
Default setting is 27°c.

2 Adjust the temperature setpoint using the ↑ or ↓ buttons.

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

SPA
TEMPERATURE   37°c.

Note: Range is OFF, 20°c - 40°c and adjusted in 1°c increments. Default is 37°c.

4 Adjust the temperature setpoint using the ↑ or ↓ buttons.

OPERATION

5 Once you have selected a Spa Temperature, press Enter, and the temperature will be set. The Henden Controller will then display:

SOLAR
TEMPERATURE   30°c.

Note: This is the temperature you would like the solar to heat the pool to if it is utilised. Range is OFF, 20°c - 40°c and adjusted in 1°c increments. Default is 30°c.

6 Adjust the temperature setpoint using the ↑ or ↓ buttons.

7 Once you have selected a Solar Temperature, press Enter, and the temperature will be set.

8 The Henden Controller will then display:

RUN UNTIL   ON
HEATED   OFF

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

Handy Tip: 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.

Note: This may mean that the filtration pump and heater may be running for continuous extended periods of time, potentially longer than 24hrs straight. Once the Pool Temperature limit is reached the Henden Controller will automatically return to the scheduled settings.

10 The Henden Control will then return you to the Main Menu.

Control

1 Enter the Control Menu to manually change any socket or valve that has been allocated an appliance during 'Appliance Setup' to On/ Off/ Auto.

OPERATION

2 Press ENTER to open the setting and the Henden Control will display:

S1: XXXXXXXXX
AUTO

3 Use the ↑ or ↓ buttons to move between the allocated sockets and valves.

Note: If a socket or valve hasn't been allocated an appliance, then it won't be shown.

4 Press the ENTER button to toggle between, AUTO, OFF, & ON.

Handy Tip: Press the Auto Button to return all appliances to normal automatic operation.

Note:

> Please remember that you will also need to turn the appliance back to Auto, otherwise it will continue to run.
> If a socket has been set to ALWAYS ON, then you won't be able to turn it on manually.
> A valve allocated to Pool/Spa, will not be able to be turned on using this menu option.

Timers

1 Enter the 'Timer' menu to set None, 1 or 2 timers for each appliance allocated to a socket or valve, other than filtration pumps and sanitisers.

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

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

Socket #X
XXXXXXXXXXXX'

3 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:

XXXXXXXXXXX
TIME 1 ON.

OPERATION

---

4 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 Henden Control will display:

XXXXXXXXXXXXX
TIME 1 FRM XX.XX

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

XXXXXXXXXXXXX
TIME 1 TO XX.XX

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

XXXXXXXXXXXXX
TIME 2   ON/OFF

7 Adjust TIME 2 setting as with TIME 1.

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

Timer Notes

Socket Types

> "Sanitiser" is not allowed on appliance timer, as it follows filter timer.
> "Filter Timer" is not allowed on appliance timer, as it follows filter timer.
> "Solar" is not allowed on appliance timer, it follows solar configuration.
> "Always On" is not allowed on appliance timer.
> "Blower" is not allowed on appliance timer, used only in Spa mode.
> "Jet Pump" is not allowed on appliance timer, used only in Spa mode.
> "Ind Heat Pump" is not allowed on appliance timer, it follows heating configuration.

OPERATION

Valve types

> "Pool/Spa" is not allowed on appliance timer, used on in Pool/Spa mode.

> "Solar" is not allowed on appliance timer, as it follows solar configuration.

> "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'.

> VF contact types "Gas Heater & Heat Pump" are not allowed on appliance timers.

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

Lights

1 Enter the 'Lights' menu to change the colour of your allocated pool/ spa lights.

Note: Garden lights are not given the option of colour changing

2 Ensure the socket number and the brand/type of light are allocated in the 'Appliance Setup' before you can change the colours through this menu option.

3 Enter the Lights menu, the Henden Control will display the allocated socket number, allocated light type, and the brand/style of light. For example.

S6: POOL LIGHT
SINGLE COLOUR

4 Use the ↑ or ↓ buttons 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 Henden Control will display:

S6: (Brand name)
(Current colour)

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

6 Repeat these steps for any other light sockets.

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.

OPERATION

Installer Menu

1 Under the Installer Menu there is a range of options to choose from. These are:

a. Appliances
b. Pump
c. Lights
d. Heating
e. Spa
f. Heat Demand
g. Pump Call
h. Water Feature
i. Temperature Sensor
j. Expansion Unit
k. Set Time
l. Wi-Fi
m. Reset Passcode
n. Factory
o. About

2 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.

Appliances

Appliances can be allocated on 8 power sockets, 4 valves and 1 VF contact. Socket 1-2, Valves 1-4, and the VF Contact are all located on the master Henden Control.

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.

Assigning Sockets in Appliances

1 Enter the Appliance Menu, the first thing that will be displayed is:

SOCKET #1
(currently allocated appliance)

OPERATION

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

3 Repeat the above steps for any remaining sockets to assign.

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

Assigning Valves in Appliances

1 Enter the Appliance Menu, the first thing that will be displayed is:

VALVE #1
(currently allocated appliance)

2 Use ↑ or ↓ buttons to toggle between Valve options.

3 Press enter once the Valve option you want is displayed on the screen.

4 Repeat the above steps for any remaining valves to assign.

Note: The Henden Control will only turn 2 valves at the same time, i.e., Pool/Spa valves. There will be a 40 second delay before a third or fourth valve will be turned.

Assigning the VF Contact in Appliances

1 When changing the VF Contact, the Henden Control will display.

VF Contact
(Currently allocates appliance)

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

Note: The sanitiser must be set to operate 24hours per day or 'Manual On' as the Henden Control will control the number of hours per day the system will operate. Refer to the Sanitiser instructions for 24hr timer setup and dosing requirements.

OPERATION

Pump

1 Enter the pump menu. The Henden Control will then display the option to choose either a Single Speed Pump or Multi Speed Pump:

PUMP TYPE
MULTI-SPEED

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

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

   b. If you Enter MULTI SPEED, then the Henden Control will display:

PUMP BRAND
(Brand Name)

3 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.

4 Set the pump speeds relevant to the pump you selected

5 To set the Default speed, use the ↑ or ↓ buttons to scroll through the range of pump speeds (1, 2, 3, & 4) that you have just set. Once you have adjusted the default speed, press Enter to accept.

PUMP DEFAULT
SPEED X

6 The Henden Control will accept the default speed and return to the Installer Setup Menu.

OPERATION

Lights

Note: 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.

1 Before following the steps below, ensure 1, 2, or 3 sockets have been allocated in appliances to either the pool or spa light via the menu. The Henden Control will display sockets with lights assigned with their socket number:

S2: SPA
SINGLE COLOUR

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

3 Use the ↑ or ↓ buttons to scroll through the allowable brands of lights.

4 Press Enter to select the light brand installed.

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

6 Press Enter to accept the colour.

7 Repeat the above steps for any other lights assigned to a socket.

8 Once you have finished, either press the Back Button to return you to the Installer Setup Menu or press the Menu Button to return the Henden Control to normal operations.

OPERATION

Heating

1 Use the ↑ or ↓ buttons to select your solar type (None, Separate, Valve or Boosted). If you have no Solar Heating installed, press Enter to accept 1. None and the Henden Control will move you onto the next option.

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

    b. If you have a system where a valve is turned to send water into the solar panels, select 'Valve'.

    c. If you have a Boosted (integrated) system, scroll to 'Boosted' and select.

2 Use the ↑ or ↓ buttons to select either 'Solar' or 'Winter mode' options and press Enter.

3 Select the pump running speed for solar heating.

Note: This option will only appear if you have selected either Valve or Boosted for your SOLAR options.

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

4 Use the ↑ or ↓ buttons to set the solar heating start time.

Note: The following options will appear if you have a VF Contact assigned in appliance set up. If Heat Pump was selected under VF Contact, then the following will be displayed:

5 Use the ↑ or ↓ buttons and select 'ON' to enable the Henden Control to run the heat pump. Select OFF to disable the heat pump, then press Enter.

6 Use the ↑ or ↓ arrows to select your Heating Installation Type options then press Enter.

Note: If Gas Heater was selected under VF Contact, use the ↑ or ↓ buttons and select 'ON' to enable the Henden Control to run the gas heater. Select OFF to disable the gas heater, then press Enter. Then use the ↑ or ↓ buttons to increase or decrease the cool down time. The range of time for the Cool Down is 00Mins to 59Mins.

OPERATION

Handy Tip: This function is here to help prolong the life of a Gas Heater. 5Mins is an acceptable minimum but the time can be extended if so desired.

7 Use the ↑ or ↓ arrows to select your Heating Installation Type options then press enter.

8 Use the ↑ or ↓ buttons to select which pre-set pump speed you would like, and press Enter, and the Henden Control will exit you to the Installer Setup Menu.

Important terms:

> 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 by the independent heater.
> Independent with Sensor - The heater is plumbed independently, but the Henden Control will control the temperature and will need the pool sensor drilled into the pipe in front of the independent heater's circulation pump.

Spa

1 Use the ↑ or ↓ buttons to enter if Spa options are 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.

2 Select OFF. The Henden Control will turn off all spa options (including use of the SPA button on the front of the Henden Control) and return you to the Installer Setup Menu.

3 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.

OPERATION

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4 Repeat steps above for any Jet Pump assigned to a socket.

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

Note: If you have both a Blower and a Jet Pump allocated under Appliances, the Henden Control will let you select ON for Blower but will wait until after you select ON or OFF for Jet Pump. It will then ask you what temperature you want temperature the Blower to turn on at.

Note: If you select ON for both the Blower and the Jet Pump, the Henden Control will display:

BLOWER + JET PUMP
SWITCH ON AT XX°

5 Once you have adjusted the above, the Henden Control will display:

SPA   ON
CHLORINATOR   OFF

6 If you select OFF to Spa Chlorinator, the Henden Control will move you onto the next option. If you select ON, the Henden Control will display:

SPA CHLORINATOR
DUTY CYCLE   10%

7 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 10% from 0% to 100%.

8 Adjust and press Enter to accept. The Henden Control will move you onto next option.

9 Once you have selected the temperature for the Blower and/or Jet Pump, and you have adjusted the Chlorinator Duty Cycle, the Henden Control 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

10 Use the ↑ or ↓ buttons to select which pre-set speed you would like, and press Enter. If you don't have Spa lights allocated, the Henden Control will display:

NO SPA LIGHT CONFIGURED

and will exit you to the Installer Setup menu after a period, or you can press the menu button to exit.

11 If you have Spa Lights allocated, the Henden Control will display:

S4: SPA LIGHT

12 Once 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 Henden Control is switched into SPA MODE.

Note: It may be a different colour to what is set under the Timer menu.

13 Use the ↑ or ↓ buttons to scroll through the colours, press Enter to select. Once you have pressed Enter to select, the Henden Control will the display:

SPA TIMEOUT:
04 HOURS

14 Use the ↑ or ↓ arrows to increase or decrease the hours in hourly increments. The range is OFF, 1 to 24 hours with 4 hours being the default setting.

Handy Tip: 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 B&B.

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

OPERATION

Heat Demand

1 Enter the menu option, the Henden Control will display:

HEAT   ON
DEMAND   OFF

a. If you select OFF, the Henden Control will accept the selection and exit you to the Installer Setup menu.

b. If you select ON, the Henden Control will display:

HEAT   06.00
DEMAND   22.00   (default times)

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

SANITISER   ON
OFF

Note: 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 over chlorinated.

3 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.

4 Once you have selected the option you would like, the Henden Control will 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 Henden Control will only utilise the heat pump or gas heater when the roof temperature is below what the minimum roof temperature is set to.

5 Use the ↑ or ↓ arrows and press Enter to select the option you would like. If you select Yes, the Henden Control will display:
MIN ROOF
TEMPERATURE 40°C

OPERATION

6 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.

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

Pump Call

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

Handy Tip: Often, this menu option will be utilised in the case of a Heater telling the Henden Control that it is turning on, and the Henden Control needs to turn the filtration pump on. Not the Henden Control telling the Heater to turn on.

Handy Tip: 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 Henden Control. 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.

Water Feature

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

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

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

3 If you select 3. VALVE, the Henden Control will display:

WATER FEATURE
SPEED 1

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

OPERATION

5 Once you have selected a pump speed, the Henden Control will return you to the Installer Setup menu.

Temperature Sensor

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

2 When you press Enter the Henden Control will display:

SENSOR 1 or 2 TYPE
NOT USED

3 Using the ↑ or ↓ buttons, you have the option of selecting, NOT USED, POOL, and ROOF. Scroll up or down to select the option you want, and press Enter to accept.

4 Repeat to change the other Sensor type.

5 When you choose a Sensor to be a Pool Sensor the Henden Control will display:

SENSOR 1 or 2 OFFSET
0.0

Handy Tip: 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 Henden Control will not allow both the sensor types to be the same.

6 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.

7 If you wish to swap the sensor types around, you will need to change one of the sensors to Not Used. Then you will be able to change the alternate sensor to what you want it to be.

OPERATION

Expansion Unit

Initial Installation

1 When you initially install the master Henden Control with either one or two expansion units, do not turn the power on to all three units at once.

2 Once the Master Henden Control has started, turn the power on for the Expansion Unit that will be allocated as Unit 1

3 Allow a period of about 20seconds to pass before you turn the power on for the Expansion Unit that will be allocated as Unit 2.

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

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

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

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

Secondary Installation

1 To add an Expansion Unit, (whether first or second) you need to ensure that the signal cable is connected. Once the signal cable is connected, plug the Expansion Unit into a power point and turn it on.

2 The Master Henden Control will detect that the Expansion Unit is there and assign it to either EXP:l (if first unit) or EXP:2 (if second unit) and will be displayed.

3 Enter 6.10 Expansion Unit menu function to increase the amount of Expansion Units that can have Appliances allocated to it.

OPERATION

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

EXP:1   1.00B1
EXP:2   NONE

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

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

NUMBER EXP
UNITS 0

6 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.

7 If '0' allocate any Appliances beyond Sockets 1 & 2.

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

RESET ALL
ADDRESSES   NO

Note: If you DO NOT want to reset the Expansion Unit address, press Enter, and the Henden Control 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 a system after being installed at another site.

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

EXP UNITS
RESET ADDRESSES ….

OPERATION

10 When complete the following will be displayed:

EXP UNITS
RESET DONE!

11 Press Enter and the Following will be displayed:

SCAN FOR EXP
UNITS NOW?   NO

12 Use the ↑ or ↓ buttons to change the NO to a YES, press the Enter button to scan for Expansion Units. You will only need to scan for Expansion Units if you have Reset the Expansion Units addresses.

13 If you select NO the Henden Control will return you to the Installer Setup Menu.

Set Time

1 Use the ↑ or ↓ buttons to alternate between YES or NO. Press Enter to accept. If you select Yes, the Henden Control will ask for your location and display:

LOCATION
ACT

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

AUTO ADJUST
DST YES

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

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

5 Once the time is set, the Henden Control will automatically update from internet time when the Henden Control connects to Wi-Fi.

OPERATION

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

7   When you enter this menu, the Henden Control will display:

SET TIME
XX.XX

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

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

10   When you press Enter to accept the minutes, the Henden Control will return you to the Installer Setup menu.

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

Wi-Fi Connection (Without Smart Device)

WARNING: Make sure that the Wi-Fi network used for the Henden Control is set up to run on 2.4Ghz.

1   Select Wi-Fi ON.

2   Press the Enter button and the Henden Control will display:

SEARCH WIFI   YES
NETWORK   NO

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

4   If the Henden Control IS displaying the correct Wi-Fi network, select NO and the Henden Control will move you onto the next option - Reset Wi-Fi Settings.

5   If the Henden Control IS NOT displaying the correct network, select YES and the Henden Control will display:

SEARCHING FOR
WIFI NETWORK ....

OPERATION

6 The available networks will be listed in order of strongest signal strength to the weakest. For example:

"NETWORK NAME"   OR   "NETWORK NAME"
-30dBm WPA/2   -54dBm WPA

Handy Tip: Wi-Fi signal strength ranges from -30dBm (being the strongest) to -100dBm (being the weakest).

Note: The Henden Control supports the following network security types:

TYPE	REMARKS	TYPE	REMARKS
OPEN		WPA2	WPA2 PSK
WEP		WPA/2	WPA & WPA2 PSK
WPA	WPA PSK	WPA2E	WPA2 Enterprise

7 Wait for a few seconds, then use the ↑ or ↓ buttons to scroll through the available networks, press Enter to select the network you want to connect to.

8 The Henden Control will then ask you for the password for the network connection.

9 Use the Spa and the ↑ or ↓ buttons to scroll through the available characters to enter your passcode. You can use the Back button to return to a character that isn't correct.

Note: The last character on the top line is indicating what type of character is being inputted. In the case of the above display, you would be entering a lower-case alphabet character. Use the SPA button to change the Input Type to what is required as you enter the passcode.

DISPLAYED	INPUT TYPE
a	Lower Case Alphabet
A	Upper Case Alphabet
0	Numeric
#	Symbols

Note: The Henden Control will not support the follow Symbols:

'~' Tilde, will display '->' instead.
'\' Backslash, will display '¥' instead.

OPERATION

10 Once you have entered the passcode, press Enter. The Henden Control will display:

CONNECTING TO *
"NETWORK NAME"

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

b. If the password is incorrect the Henden Control will display:

WI-FI PASSWORD
INCORRECT

c. You will need to enter the password in again correctly. If connection successful, the Henden Control will display:

CONNECTED TO
"NETWORK NAME"

11 The small downward facing arrow indicates that the Henden Control is connected to the Wi-Fi and is positioned above the Wi-Fi wording on the face label.

12 Once the Henden Control is connected, the Henden Control will then display:

RESET WIFI   YES
SETTINGS   NO

13 IF the Henden Control is connected to the correct network, there is no need to Reset Wi-Fi Settings, select NO and the Henden Control will move you onto the next option.

a. If you need to Reset Wi-Fi Settings (e.g., changed your Wi-Fi network or provider) then you will need to select YES. The Henden Control will reset any existing Wi-Fi settings, including network password.

b. When yes is selected the Henden Control will display:

WIFI SETTINGS
RESET   OK

c. Select Enter and the Henden Control will then display:

RESTART   YES
CONTROLLER   NO

    d. If you select No, the Henden Control will return you to the Installer menu.

    e. If you select Yes, the Henden Control will display:

    CONTROLLER
    RESTARTING

    f. The Henden Control will restart and go into Wi-Fi configuration mode after the reboot, the Wi-Fi arrow will blink.

    Handy Tip: Restarting the Henden Control is a good option if it cannot detect a Wi-Fi network.

Reset Password

① When you enter this function, the Henden Control will display:

    RESET   **YES**
    PASSCODE   **NO**

② If you select NO, the Henden Control will return you to the Installer Setup menu.

③ If you select YES, the Henden Control will reset the password to the factory default and unlock the Device Passcode.

④ The Henden Control will automatically return you to the Installer Setup menu.

Factory

① Use the ↑ or ↓ buttons to change the NO to a YES, press the Enter button and the Henden Control will reset itself to factory settings and return you to the Installer Setup menu.

About

All Firmware and Henden Control unique codes are displayed here.

The APP CODE: can be typed into the app if no QR code is available.

APPENDIX

Special Feature Valves Appendix

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 output 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.

> WARNING: 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 again 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.

WARRANTY

HENDEN™ REPAIR OR REPLACEMENT GUARANTEE

Thank you for purchasing the Henden Control. The Henden Control is covered by a limited 3-year warranty against component failure or faulty workmanship from the date of installation.

By using the Henden Control you accept the terms and conditions of this warranty. The warranty is subject to the qualifications, conditions and limitations as described below.

Should you experience any difficulties with your Henden Control, please contact your local Reece Irrigation & Pools branch or call 1300 Henden — our customer support line. On receipt of your claim, Henden will seek to resolve your difficulties — if the product is faulty or defective, our team will advise you on how to have your Henden product repaired, obtain a replacement or a refund. Henden does not cover normal wear or tear, or damage resulting from misuse or negligent handling, improper use for which the product was not designed or advertised, failure to properly follow the provided installation and operating instructions, failure to carry out maintenance, corrosive or abrasive water or other liquid, lightning or high voltage spikes, or unauthorized persons attempting repairs.

Where applicable, your Henden product must only be connected to the voltage shown on the nameplate. Henden does not cover freight, or any other costs incurred in making a claim. Please retain your receipt as proof of purchase; you MUST provide evidence of the date of original purchase when making a claim. To the maximum extent of the law, Henden shall not be liable for any loss of profits or any consequential, indirect, or special loss, damage to persons or property, or injury of any kind whatsoever arising directly or indirectly from Henden products. Should your Henden product require repair or service after the guarantee period; contact your nearest Reece Irrigation & Pools branch.

For a complete list of Reece Irrigation & Pools branches visit our website
reece.com.au/storefinder

Technical and after sales support:
1300 HENDEN (1300 436 336)

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Dontek Electronics Pty Ltd
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henden™