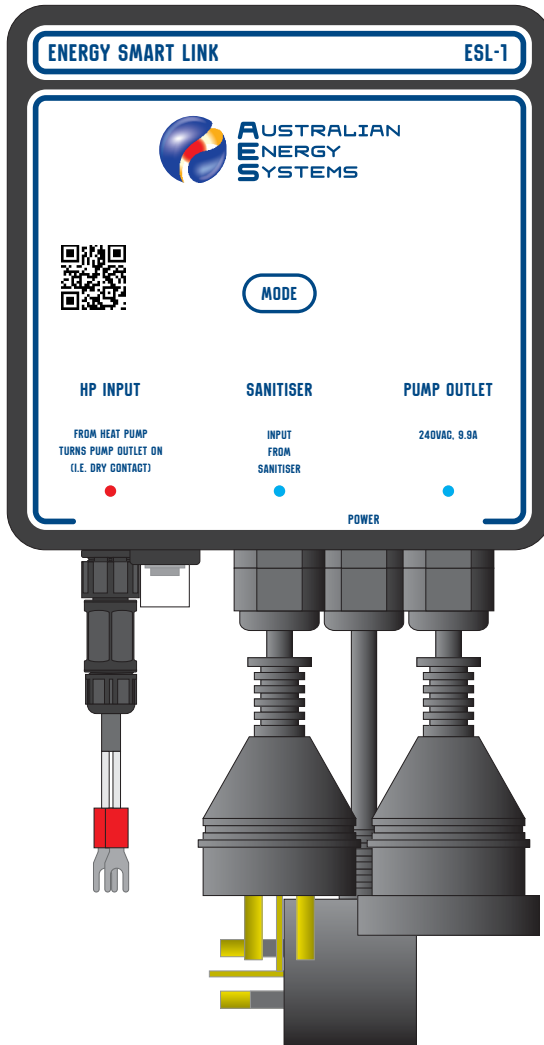




**AUSTRALIAN
ENERGY
SYSTEMS**

ESL-1 ENERGY SMART LINK

INSTRUCTION MANUAL



www.australianenergysystems.com.au

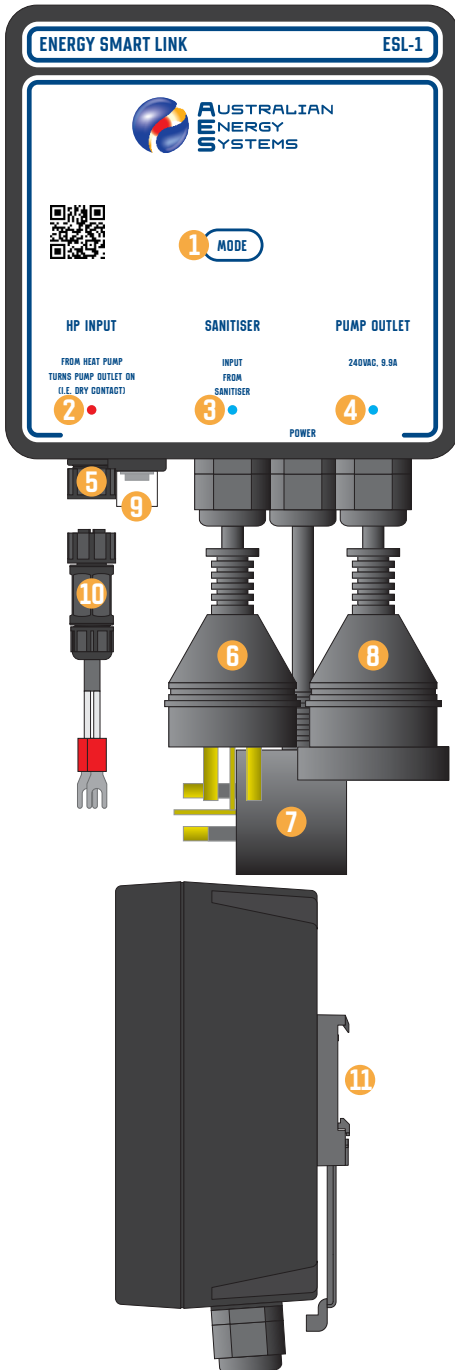
Thank you for purchasing the **ESL-1 Energy Smart Link**.

The **ESL-1** has been designed for maximum reliability and long service life. Please be sure to follow the instructions in this manual to get the best performance and life from your equipment.

The **ESL-1** is quite easy to operate, and this manual will explain each of the steps clearly. Troubleshooting and hints are also included to allow you to get the most from your unit. If you require assistance at any stage, please contact your Australian Energy Systems Authorised Dealer.

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GETTING TO KNOW YOUR ESL-1



1 MODE BUTTON

Press to select Integrated or Standalone installation mode. See page 5.

2 HEAT PUMP INPUT LED

Indicates status of Heat Pump demand for pool pump operation.

3 SANITISER INPUT LED

Indicates status of Sanitiser system demand for pool pump operation.

4 PUMP OUTLET LED

Indicates status of Pool Pump outlet.

5 HEAT PUMP INPUT

Connect the Heat Pump Interlock cable to this waterproof socket.

6 SANITISER INPUT

Connect to the pool sanitation system (eg chlorinator) pump outlet.

7 POWER INPUT

Connect to a weather resistant, 10 Amp power outlet.

8 POOL PUMP OUTPUT

Connect the Pool Filtration Pump to this power outlet socket.

9 CIRCUIT BREAKER

10 Amp Circuit Breaker with weatherproof cover protects the **ESL-1** from power overload. Push the button in to reset if the breaker trips.

10 HEAT PUMP INTERLOCK CABLE

Connect to the waterproof HEAT PUMP socket. See page 8 for details about connections at the Heat Pump.

11 MOUNTING CLIP

Pull the clip downwards when mounting the **ESL-1** to the mounting rail, or to unclip when removing.

HOW THE ESL-1 WORKS

The **ESL-1** provides an interface between your Pool Sanitiser System (e.g. Salt Chlorinator), Heat Pump and Pool Filtration Pump.

The Pool Sanitiser System operates the Pool Filtration pump through its timer and manual override settings, the same as if the Pool Filtration Pump was still directly connected to it.

The Heat Pump interface allows for the Pool Pump to be switched on whenever Heat Pump needs to heat the pool, even outside the regular filtration cycle times of the Pool Sanitiser System.

The **ESL-1** interface saves energy by allowing a single pump to circulate the pool water required for both filtration and heating.

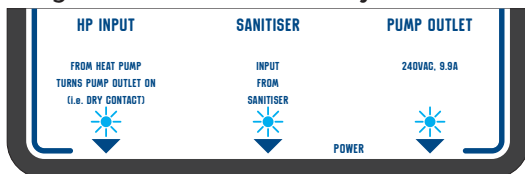
SELECTING INTEGRATED OR STANDALONE MODE

Integrated Mode is used when the Heat Pump and Pool Filtration are integrated with the Pool Sanitiser System (e.g. Chlorinator) into the same plumbing, and using a shared pool pump for heating and filtration.

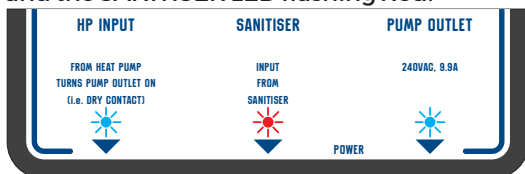
Standalone Mode is used when the Heat Pump has its own standalone plumbing provisions.

The **ESL-1** is set to Integrated Mode by default. To check or change the Mode:

- Press and hold the **MODE** button for 3 seconds.
- The current mode setting will be displayed by the LEDs.
- Integrated Mode is indicated by all three LEDs flashing Blue.



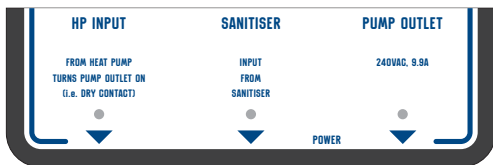
- Standalone Mode is indicated by the HP INPUT and PUMP OUTLET LEDs flashing Blue, and the SANITISER LED flashing Red.



- Press the **MODE** button to toggle between Integrated and Standalone modes.
- The unit will save the setting and return to normal operation 5 seconds after the **MODE** button was last pressed.
- In Standalone mode, the SANITISE LED never lights up, since that input is not used.

ESL-1 STATUS LEDS

The **ESL-1** has bicolour Red and Blue LEDs. You can always see the status of the inputs and output at a glance.



HP INPUT OFF **SANITISER** OFF **PUMP** OFF

Power to **ESL-1** is switched off.

SANITISER INPUT SELF LEARNING MODE

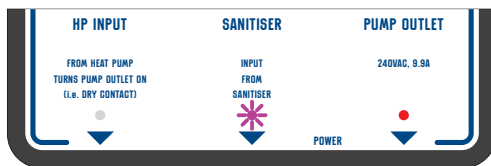
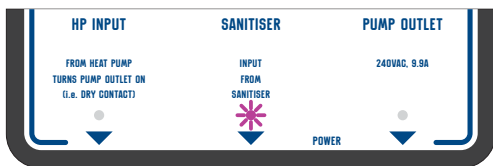
The **ESL-1** Sanitiser input detects whether the Sanitiser system's pool pump outlet is switched on or off using an optical system, not with a direct electrical connection. The detection is done this way, so that **ESL-1** cannot interfere with the electrical isolation required for pool sanitation systems.

Some sanitation systems have a "snubber circuit" on the pool pump outlet, which can maintain some AC voltage output when it is switched off. Also, the mains power grid can vary from 225 to 245 VAC from place to place, and even at different times of the day or night.

To deal with these variations, **ESL-1** will self-learn the **difference** between your sanitation system's output when it is **ON** and when it is **OFF**. This will occur whenever **ESL-1** is powered on. The **SANITISER** input LED will flash between Red and Blue while it is self learning, giving it a purple appearance.

Since **ESL-1** needs to measure both the **ON** and **OFF** levels of your sanitation system output, please switch your sanitation systems pool pump output **ON** and **OFF** for approximately 10 seconds. If the **SANITISER** LED continues to flash between Red and Blue, repeat the sanitiser **ON** and **OFF** cycle.

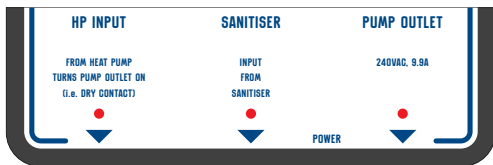
This self learning function will ensure that **ESL-1** will operate correctly for all installations.





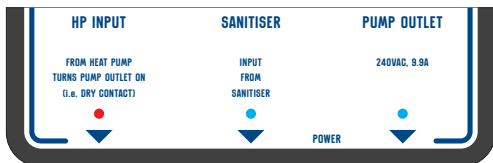
ESL-1 STATUS LEDS

STATUS LEDS IN INTEGRATED MODE



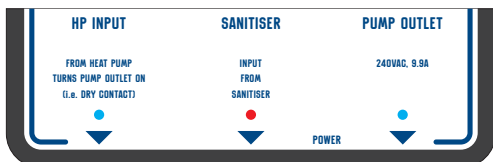
HP INPUT **SANITISER** **PUMP**
 RED RED RED

No demand from Heat Pump.
 No demand from Sanitiser system.
 Pool Pump is switched off.



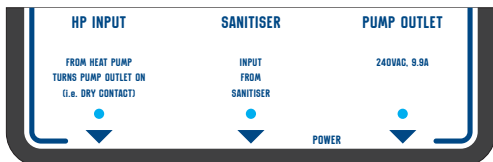
HP INPUT **SANITISER** **PUMP**
 RED BLUE BLUE

No demand from Heat Pump.
 Sanitiser system demands Pool Pump on.
 Pool Pump is switched on.



HP INPUT **SANITISER** **PUMP**
 BLUE RED BLUE

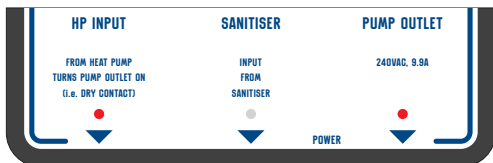
Heat Pump demands Pool Pump on.
 No demand from Sanitiser system.
 Pool Pump is switched on.



HP INPUT **SANITISER** **PUMP**
 BLUE BLUE BLUE

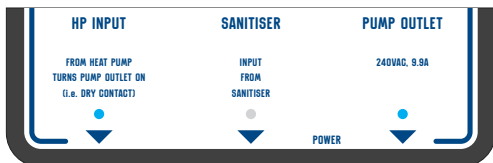
Heat Pump demands Pool Pump on.
 Sanitiser system demands Pool Pump on.
 Pool Pump is switched on.

STATUS LEDS IN STANDALONE MODE



HP INPUT **SANITISER** **PUMP**
 RED OFF RED

No demand from Heat Pump.
 Sanitiser system is not connected.
 Pump is switched off.



HP INPUT **SANITISER** **PUMP**
 BLUE OFF BLUE

Heat Pump demands Pool Pump on.
 Sanitiser system is not connected.
 Pump is switched on.



CAUTIONS & WARNINGS

- Please read these instructions fully and keep this manual on hand whenever operating or maintaining your **ESL-1**.
- Although the **ESL-1** has a weather resistant design, its service life will be considerably longer if it is not exposed to direct sunlight and rain. Wear and tear from direct exposure to the elements is not covered by the warranty.
- Keep the power cord visible. Do not bury it.
- Do not allow grass or weeds to grow around the **ESL-1**, or its cables to prevent accidental damage from garden trimming equipment.
- Any damaged cables must be replaced immediately to prevent electrical shock.
- Unplug the **ESL-1** power lead before inspecting or working on the pump.
- The **ESL-1** must be serviced only by an authorised service agent. Please contact your Australian Energy Systems Authorised Dealer for details.
- Opening the unit may cause an electric shock, which can result in injury or death.



When connecting to the Heat Pump, ensure that the two fork terminals connect to a voltage free contact.

This connection must be performed by qualified Heat Pump installers only.

Any voltage on this connection will lead to damage to the ESL-1 controller, and void the warranty.



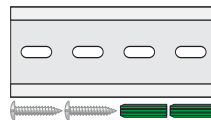
WHAT'S INCLUDED



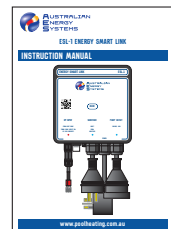
ESL-1 Energy Smart Link Controller



Heat Pump Interlock Cable, 5m



DIN Rail & Screw Kit for wall mounting unit



Instruction Manual

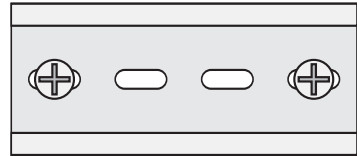


PRE-INSTALLATION CHECKLIST

- The **ESL-1** unit **MUST** be mounted vertically, with the cables at the bottom in order to be weather resistant. Any water ingress due to the unit being incorrectly mounted is not covered by warranty.
- Choose a position that will allow the Heat Pump Interlock Cable reach from the **ESL-1** to the Heat Pump without straining.
- Ensure that the power lead from the Pool Pump can reach the power outlet on the **ESL-1** without straining. The power outlet socket must be hanging downwards to be weather resistant.
- Ensure that the power lead from the Pool Sanitation system can reach the power outlet on the **ESL-1** without straining.
- Ensure that the **ESL-1** is protected from direct sunlight and weather. Although the unit has a weather resistant design, damage from long term exposure is not covered by the warranty.
- Do not connect the **ESL-1** power lead to the power source until all installation steps are complete.

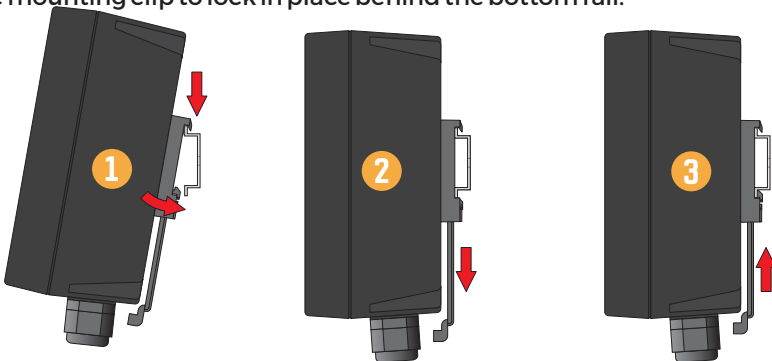
INSTALL MOUNTING PLATE

Install the mounting plate level in the desired location. Screws and wall plugs are provided.



MOUNT ESL-1 UNIT

- 1 Hook the **ESL-1** mounting clip onto the top rail of the mounting plate.
- 2 Pull the mounting clip down pulling the **ESL-1** against the bottom rail of the mounting plate.
- 3 Allow the mounting clip to lock in place behind the bottom rail.





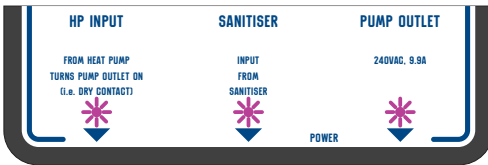
RESETTING SELF LEARNING DATA

In some rare cases, such as if the Pool Sanitiser System is replaced, the **ESL-1** may not detect the pool pump ON and OFF states correctly. If this does occur, the self learning data can be reset to factory defaults:

- Switch the power to the **ESL-1** OFF for 5 seconds.
- Press and hold the **MODE** button while switching the power to the ESL-1 back on.

Continue to hold the **MODE** button until the slow flashing LEDs change to fast flashing LEDs.

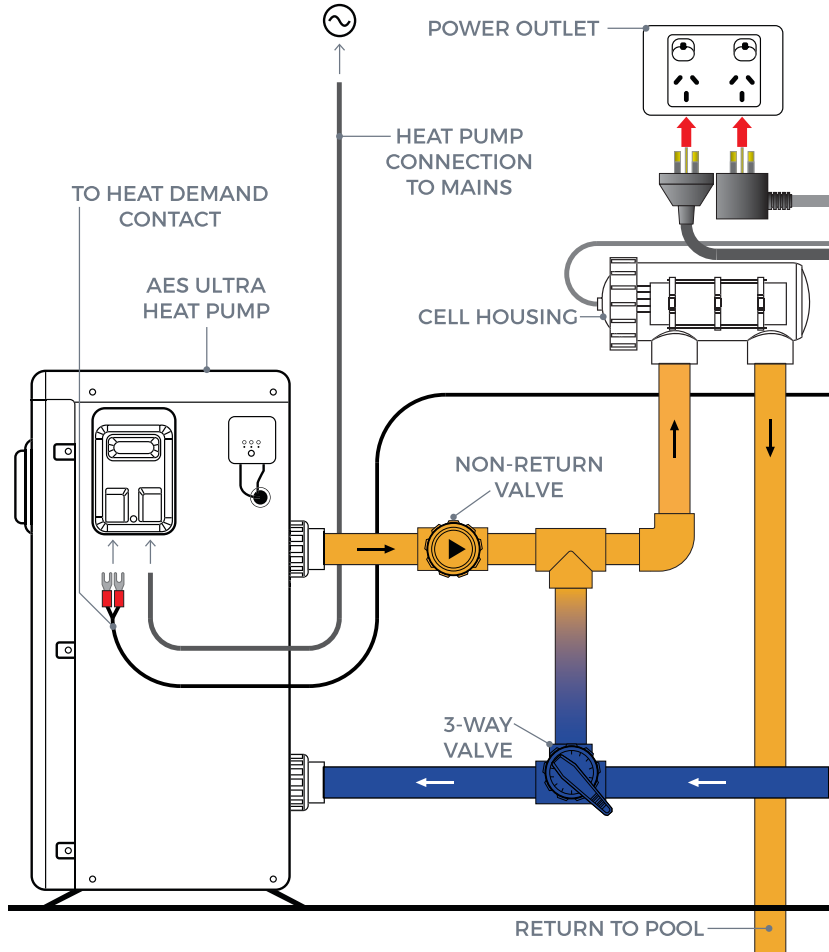
- The self learning data has been reset and the **ESL-1** will now re-learn the ON and OFF voltages of the sanitiser system when its pool pump outlet is cycled through ON and OFF settings.





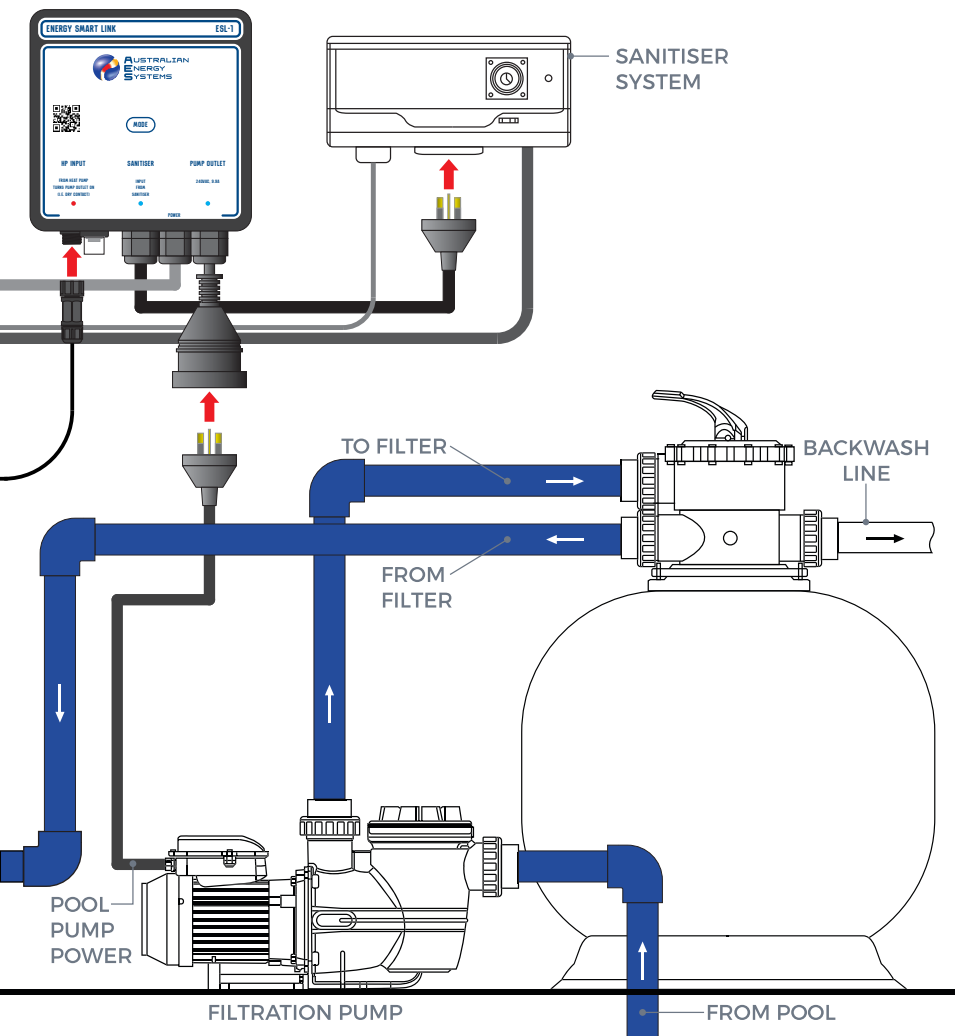
ESL-1 ELECTRICAL CONNECTIONS

INTEGRATED MODE



ELECTRICAL CONNECTIONS FOR INTEGRATED MODE

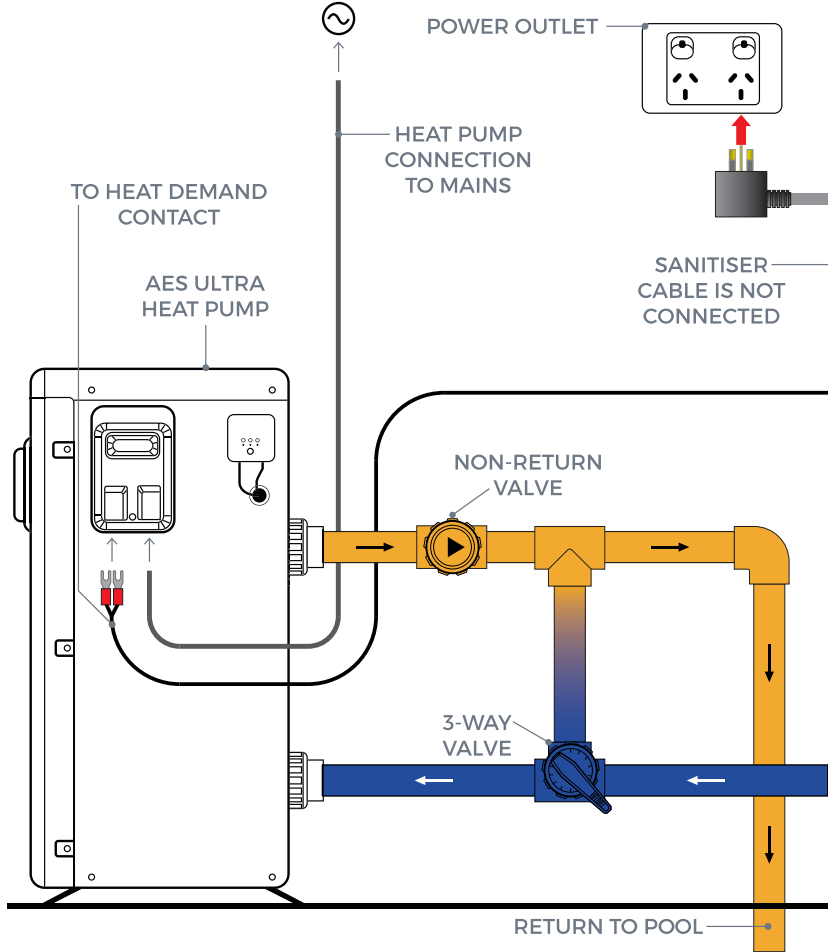
- Connect the **ESL-1** Piggy-back power lead to a suitable 10 Amp rated, weather resistant power outlet.
- Connect the power lead from the Pool Pump to the **ESL-1 PUMP OUTLET** socket.
- Connect the **SANITISER** power lead to the pool pump outlet of the Sanitiser system.
- Connect the Heat Pump Interlock cable to the **HEAT PUMP** socket of the **ESL-1**.
- Connect the other end of the Heat Pump Interlock cable to the Heat Demand contact terminals of the AES Ultra or other brand Heat Pump.





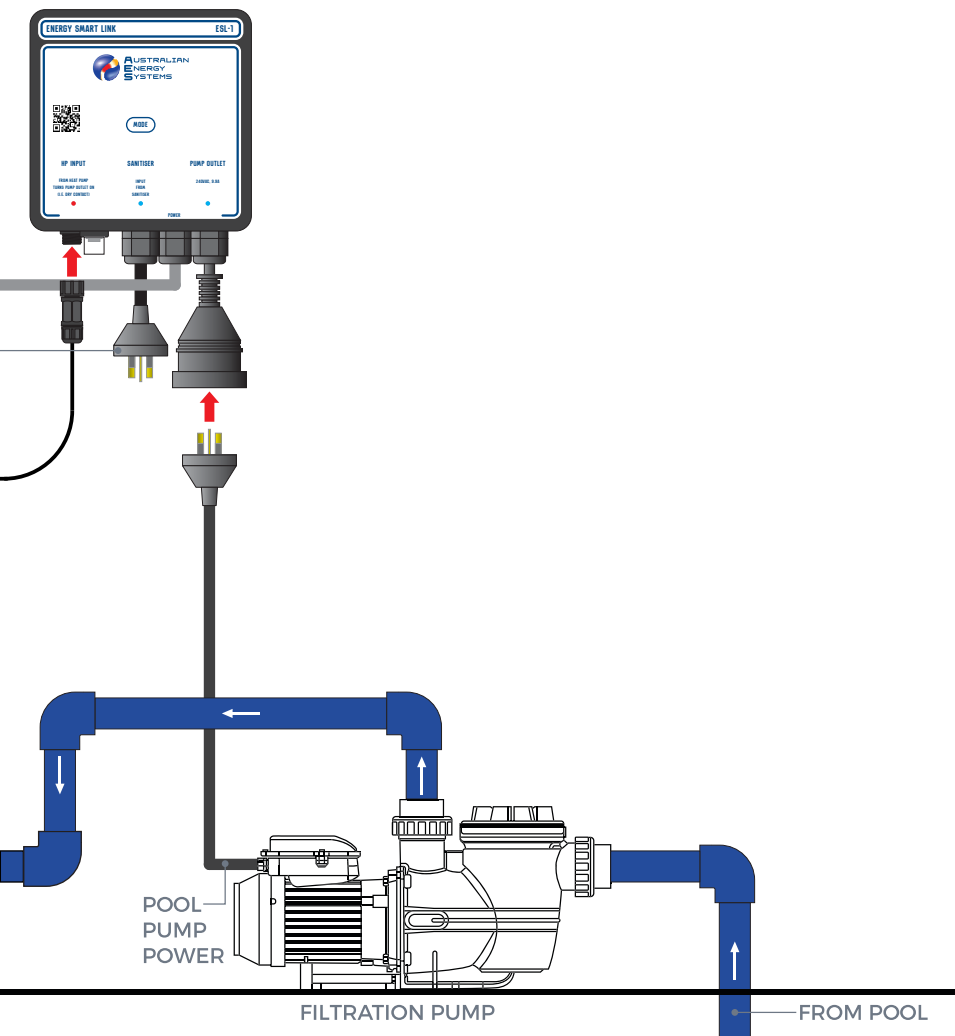
ESL-1 ELECTRICAL CONNECTIONS

STANDALONE MODE



ELECTRICAL CONNECTIONS FOR STANDALONE MODE

- Connect the **ESL-1** Piggy-back power lead to a suitable 10 Amp rated, weather resistant power outlet.
- Connect the power lead from the Pump to the **ESL-1 PUMP OUTLET** socket.
- Do Not connect the **SANITISER** power lead to any outlet.
- Connect the Heat Pump Interlock cable to the **HEAT PUMP** socket of the **ESL-1**.
- Connect the other end of the Heat Pump Interlock cable to the Heat Demand contact terminals of the AES Ultra or other brand Heat Pump.





RESETTING THE CIRCUIT BREAKER

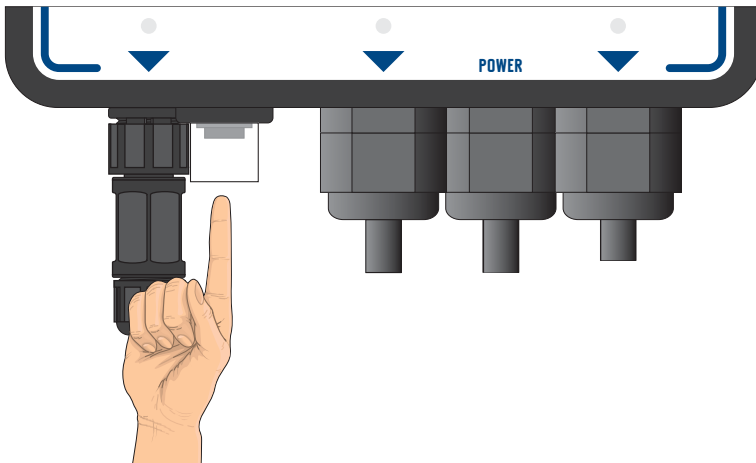
The **ESL-1** has a 10 Amp circuit breaker to protect the unit from excessive power drain from the Pool Pump, or an internal fault. This can occur due to any of the following reasons...

- The Pool Pump has power rating higher than 10 Amps (2400 Watts).
- The Pool Pump has a larger than normal start-up current, which exceeds 10 Amps long enough for the circuit breaker to blow.
- The Pool Pump is faulty, for example a faulty start-up and run capacitor.
- The Sanitiser System is faulty, for example faulty wiring.

Other factors can also cause the circuit breaker to blow, but those listed above are the most common. If the circuit breaker continues to blow, the problem causing this situation must be rectified.

To re-set the circuit breaker...

- Disconnect the **ESL-1** from the power outlet.
- Press the black circuit breaker button back in until it clicks.
- Re-connect the **ESL-1** to the power outlet.





WARRANTY

Australian Energy Systems Pty Ltd (“Australian Energy Systems”) guarantees the **ESL-1 Energy Smart Link** to be free from defects in material and workmanship when subjected to normal use and service. This is a 3 year limited warranty, whereby the faulty device is returned to Australian Energy Systems, or Authorised Dealer, freight prepaid within three years from the date of purchase. The faulty device will be repaired and returned, free of charge.

There are no expressed or implied warranties which extend beyond the face hereof, and Australian Energy Systems is not liable for any incidental or consequential damages arising from the use or misuse of this product. This limited warranty does not apply to any injury, loss, damage, defect or malfunction of the product or failure to function resulting from any failure to operate the product in accordance with the directions contained in the operating instructions, failure to function resulting from any accidents, adverse environmental conditions, tampering, abuse, acts, omissions, or negligence by anyone other than Australian Energy Systems, including but not limited to such damage or injuries resulting from improper installation.

This limited warranty shall apply only to the Customer as an original purchaser. It is the customer's responsibility to follow safety regulations and laws regarding electrical installation. Shipping damage is not covered by this warranty.

No claims will be recognised without the proof of purchase. This warranty becomes invalid if unauthorised person or persons attempt modifications or repairs.

Any dispute between customer and Australian Energy Systems must be conducted in Queensland, Australia.



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